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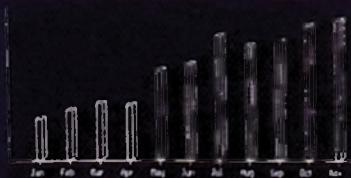
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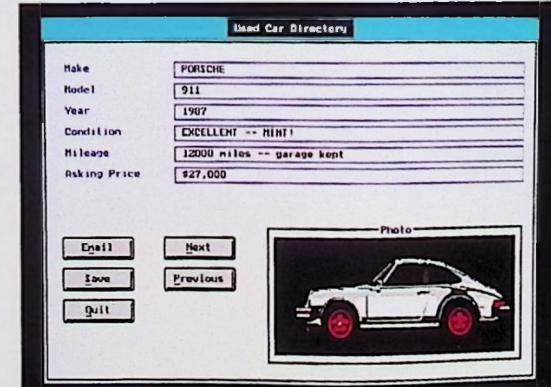
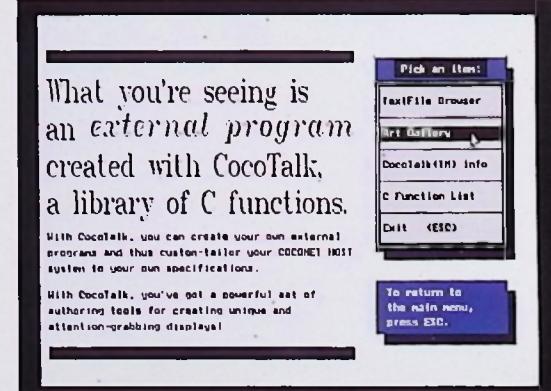
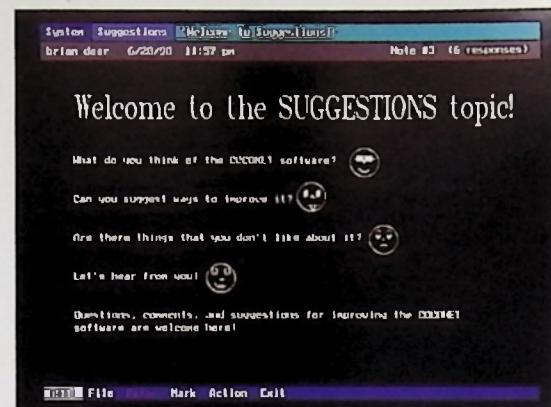
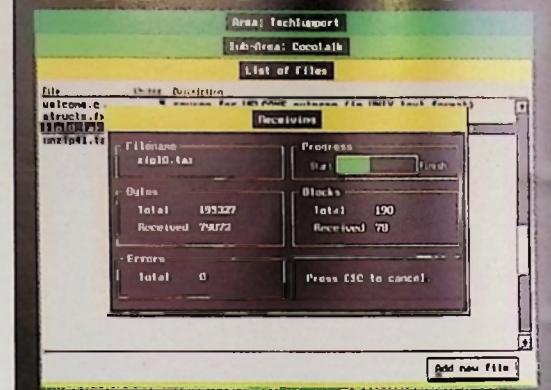
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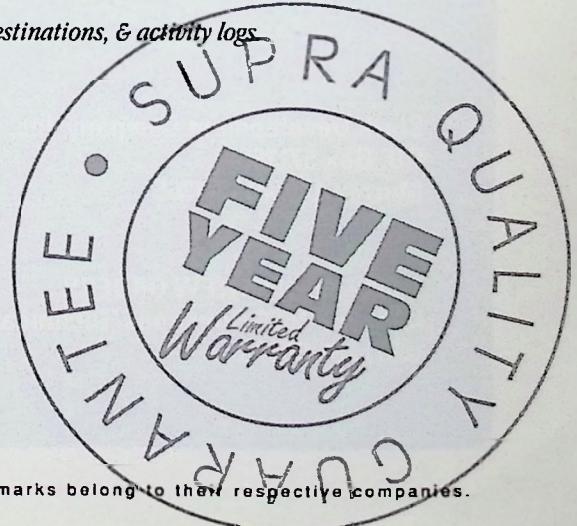
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COVER: John Crea of Cave Divers' BBS exploring and reporting on the undersea world. See story page 49.

EDITOR'S NOTES

After publishing the photo of clan Rickard, we received a number of inquiries regarding same. A trip to the doctor last week indicated my efforts at showing all the little neighborhood boys to my wife so she could see what one looked like appeared to have been effective. The ultrasound examination indicated a boy-child Rickard due to join us April 18th. The accompanying photo is his first portrait - not really much better or worse than my usual photography so here it is.

We're hearing a lot of talk about the economy and the recession these days. I'm going to guess I don't quite buy the current presentation. Mortgage rates of 8.5%, inflation virtually nonexistent, a Dow setting records daily, residential real estate recovering pretty nicely in most areas, peace breaking out world wide, and nightly TV shows discussing what should be done with all the money we're NOT going to be spending on defense. We dropped more ordinance on Iraq in six weeks than all nations together disposed of in two world wars - both by tonnage and real dollar value - and it didn't even make it as a line item in our Federal budget. Can't recall it being this good - ever.

There is the little matter of jobs. In the first three years of the Bush Administration, we lost an average of 9400 jobs per month. Additionally, an enormous number of \$40,000 per year steel mill jobs were replaced by \$12,000 per year clerical positions. General Motors to kick 74,000 out in the street. United Technologies giving the boot to 13,000. IBM posted a \$2.8 billion loss for 1991 and Digital Equipment likewise managed to drop kick some \$138 million just in the fourth quarter. IBM, long culturally opposed to any kind of layoff, is dumping employees however they can. McDonnell Aircraft, General Dynamics, Martin Marietta, Citibank - the move of the early 90s is to get rid of those nasty employees - as if they are the cause of the corporate malaise. Hundreds of thousands of white collar Americans are going through emotionally devastating changes of life after getting the dreaded phone call from down the hall. And those still employed by such firms, in-

stead of feeling they have a job until retirement, are pretty sure they have work for another six months anyway - maybe.

This isn't a recession. Economically we're sound as a dollar - so to speak. It's a change of life America is going through as the result of changes in technology, the demographic makeup of our society, and deep seated transformations in our economy. It has to do with what people do for a living and how they do it. I was reminded four times in the past week by readers who called to refer to an editorial we published in the March 1990 issue of Boardwatch. I think it's probably considered an enormous faux pas in Magazine publishing circles to simply republish an article you did two years earlier. So of course, we almost HAVE to do it. It's a little out of context, but make the best of it you can.

EDITORS NOTES FROM MARCH 1990 BOARDWATCH MAGAZINE

They're dying. They're dying slowly, painfully, and they'll ruin a lot of lives in the process, but they're going the way of the feudal estate, Mongol Hordes, and Egyptian Pharaohs. The large scale corporate entities - IBM, General Electric, General Motors, have seen their finest hour. They're reorganizing internally in a frenzy of desperation, and they're eating each other like sharks via various cannibalistic takeover strategies. But they are dying - at least in their current form.

It is not so much that they can't compete. We've reached the point where they can't even play the game. Most of us remain dazzled by the hordes of capital they control or the security and benefits of their employment packages. But those of us who remain faithful to the paradigm of allegiance to the corporate sugar daddy are emulating the role of the feudal serf faithfully tilling the land for his master after the revolution is already over. It will certainly take a few more years for the notion to become popular, but in our age, it's already a done deal.

This is not solely a function of the information age, the technology revolution, or the invention of silly putty. It is more a change in the attitude of the serfs. We have a nation of people who wander about through their day jobs at XYZ

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Corporation in a complete zombie-like daze - almost thoroughly unconcerned with the fate of the corporate entity. They've been so thoroughly deluged with memos, policy edicts, corporate mandates, retraining programs, reorganizations, and the deft, sure bungling of the MBA "suits" who have become ubiquitous in corporate management that they have lost all common sense of identity with *The Company*. They've given up on their personal ability to have an impact. At this point, as they shuffle numbly from one cup of coffee to the next, they can barely answer the telephone with the cogent authority required to say hello.

So by day they stumble through the padded cubicles of their "office environments." At a little after 4:00 PM they either sate themselves with cocaine, alcohol, sex, and TV or they go to work on their "project."

The diversity of "the projects" is awe inspiring. Children's books, cartoons, magazine articles, electronic bulletin boards, designs for tools, custom mail order catalogs of the worlds greatest coffees and teas. Plug-in circuit cards to connect their PC to a market scale in Botswana. "If we can only calculate the weight of an average African cacao bean sale, we could use it to program elevators in Chicago." Perhaps an occasional orbiting satellite BBS - page 5 this issue. [March 1990 issue]

This is a good area to draw a descriptive study in contrasts. A group of Amateur Radio enthusiasts drew together the material resources and 100,000 plus hours of labor to develop what has to be the most technically elegant launch project done this decade for the bizarre purpose of allowing individuals with personal computers to communicate on a global scale without wires. And they got it launched.

In a single telephone call to AMSAT we had not only complete information on this project within the hour from an extraordinarily knowledgeable, enthusiastic, and eloquent, albeit entirely unpaid, spokesman (Dick Daniels), but a package came two days later with our cover photo and a thoroughly professional package of information. A second telephone call to Andy Freeborn, another "amateur" and we had every-



First Male and Heir Apparent to the Rickard Dynasty - In Utero

thing anyone would ever want to know about the history and origin of packet radio. A final phone call to entrepreneur Gwyn Reedy of Florida and we had pricing on a complete package to talk to the satellite for under \$350 - not counting radio. But he apologetically allowed that it could be as long as week before it would actually get to us via UPS - a lot of interest these days you know.

IBM and Motorola also had an announcement. After seven years of development and several hundred million dollars of investment they have an exciting new product titled Ardis - essentially a packet radio package for laptops to allow the ten million outside service workers to access an online service. Twenty-two telephone calls later we still don't know what the hell they are talking about. And we're utterly persuaded there are at least twenty-three of us in that situation.

We spoke, usually briefly, with twenty-two of the dullest, most dim witted individuals still capable of wearing clothes. Not one had the slightest bit of useful information on Ardis and not one showed the slightest interest in the

project. And we weren't blindly dialing through the company phone book - these were the people involved with the project! In fairness, we often didn't get to speak with who we called at all. Instead, we talked to a Babe-On-Phone (BOP) who's sole role in the corporate hierarchy was to take names and telephone numbers, promise to have Mr. Big return the call, and then file the information in the circular file. They did have a press release in an \$8 plastic folder they could send. We've always found those terribly informative.

It was a good exercise. A visit to the land of the pathetically brain dead revitalizes our enthusiasm for the amazing diversity, creativity, and pure mental horsepower of the small-time cottage industry individuals we so pleasurable talk to day in and day out. And we have to wonder how many of these para-humans at Motorola by day actually have thoroughly fascinating "projects" in progress after 4:00 PM. Oh Eleanor Rigby. This concept of leaving your brain in a jar by the door on your way out to work is an odd one though isn't it.

We suspect that it has always been so, just not so much so. We were surprised to learn that of the three major household appliance manufacturers, not one has ever invented and successfully brought to market one single solitary new appliance. Every innovation in household appliances has come from out of house - individual inventors. The companies either buy the rights, or sadly in many cases, steal them. An army of lawyers then manage a decade long delay of whatever feeble legal attempts the wronged inventor may be able to mount - until the product either dies in the market place after the quick money is made, or if successful, a "settlement" is reached with the long desperate inventor. Have a chat with the inventor of the intermittent windshield wiper. It WASN'T Ford Motor Company.

From electricity, the telephone, the television, the radio, pocket calculators, automobiles, rocketry, to the personal computer itself, all traceable to a lone inventor - usually nearly broke, disheartened, and ridiculed by the time the breakthrough occurred. Ten years of gruesome work and they were suddenly overnight success stories. The only corporate invention of success that comes to mind involves little yellow sticky note things and I understand they were actually invented by a guy who had to clandestinely turn it into a top seller on his own out of his basement before 3M would back it. Apple Computer was actually born of stolen Hewlett Packard chips because the Woz couldn't get anyone at HP interested in his toy computer.

On the other hand, the local bell operating companies are continually frustrated that they seem unable to play in the data communications game. The latest ploy, attack the BBS operators. Their gateways are NOT making the trip. Southwestern Bell is failing miserably with Sourceline and their current strategy is to send the bill to the hobby BBS system operators. This goes beyond the bounds of intellectually crippled, it qualifies as morally pathetic as well.

IBM/Sears Prodigy is only modestly limp by comparison - but even with ANOTHER billion down that rat hole it's not going to happen. If you buy a GM Corporation automobile over the

current Japanese and German offerings at this point you have more dollars than sense. In 1990, we find the American automobile industry frantically trying to invent the 1975 Toyota. In truth IBM has been chasing the PC technology all along - they haven't led anything. And the premium you must pay for their higher quality molded plastic packaging just doesn't work out financially for most of us.

The result is that a lot of these little evening projects are turning into careers. We simply did not believe the 25 million figure for people working at home. We do now but the latest figures are 30 million. Could it be? They may be working somewhere else by day but clearly over a quarter of the work force is abandoning corporate America (or is it the other way around?) to pursue their own entrepreneurial interests.

What finally brought this into focus was three conversations we had this week with three entirely different individuals. The particulars are not unimportant - and you may read about them in future issues of Boardwatch. But for now, it is sufficient to say that all three avowed that they had real day jobs that they would never leave of course and they apologized profusely for even thinking that what they were doing vis a vis their "projects" could ever amount to anything more than a hobby. In fact all avowed that their pet projects amounted to nothing really.

In reality, their day jobs amount to nothing. You couldn't begin to tell what their role in life was from their job title much less what it is they actually did for these corporations by day. The "nothing" hobby projects were all fascinating, if perhaps a bit embryonic at this point. All were visionary, a bit techie, and with an end goal of making life on the ball of dirty water a bit better in ways large or small.

Cease the apologetics. Get on with the real work of America - basement innovation. And if you are among those that continue to hitch your wagon to the corporate star, wake up while you still have clothes.

- END MARCH 1990 EDITORIAL -

One of the reasons for re-printing the above editorial is to offer a bit different view of what is happening in our economy in light of the direction Congress and the Bush Administration seem to be taking with regards to dealing with it. I'm encouraged by some of the actual policies expressed in Bush's address, and slightly alarmed that either I'm completely lost on this subject, or they are, regarding the whole point of it. I would prefer it was me, but I'm not persuaded it is.

If this really is an economy in transition, and IF the \$40-\$80,000 jobs in corporate America are going the way of the whalebone truss, then a little awareness of this on the part of our leaders would be real encouraging. If all those middle managers wind up working in dry cleaners for minimum wage the mathematics would seem to indicate a serious depression headed our way on a scale most of us haven't seen in our lifetime. We're not leaving a whole lot of options here for middle-aged earners to maneuver. And it would appear we may throw a half million or more defense employees into the pot as well.

The only real avenue for them to recover the earnings they are accustomed to is in starting their own small entrepreneurial firms - basically my vision of an economy in a technological and historic transition. Since this is what most of them seem to want to do anyway, and since the advantages to our society that come from each success, including most of the new job creation that does happen, are not just substantial but a cause for celebration in each case, their success is our success, and their failure may be our next really gruesome depression.

Taxation and regulation at some level can be a real barrier to success for entrepreneurial startups. I'm going to guess that anything that can be done to make sure that's not a reason for failure would be a "good" thing if we all want to continue eating regularly. Bush struck this a glancing blow in his State of the Union address.

We're also hearing a lot about education. And it all seems to revolve around our poor kids. Well, the changes in our technology and society over the past 20 years indicate to me that those who view

education as a life-long process are going to swim, and those clutching an engineering degree from 1973 to their breast and wishing they had their old job back are going to sink. An adult can't realistically get into a computer science program at CU here in Colorado. In thinking of restructuring our education system, might some thought toward education on a broader front be warranted?

Finally, health care. The COBRA laws extend the availability of the group medical plans to employees for up to 18 months after they're laid off. There is a little problem here guys. Just as they find themselves on the street with no income for the first time in years, they also get a little notice that they get to chip in an additional \$400 per month to continue that health plan? How freaking encouraging. If we are transitioning to a "corporate lite" economy, we'll likely see an increase in the already swelling numbers of Americans going bare on health insurance. Do we really want the finest health care in the world, with about half or less of us able to afford it and the other half not?

If I'm right, we're not incurring a lack of consumer confidence, we're incurring a lack of wage earners with the power to consume - because they are in an economic and sociological transition that would be impossible, and probably undesirable to reverse. How they/we come out of it on the other side may depend on our leader's awareness of what's happening, and willingness to go through a few transitions themselves. Our corporations weren't fast enough on their feet to make the trip intact without some pretty heart-rending changes. Will our government be? It would be just so frighteningly and typically ironic - to win the cold war and emerge as the lone super power on the planet - and still wind up living in a Tokyo suburb.

Jack Rickard
Editor

LETTERS

Address correspondence to Letters to the Editor, Boardwatch Magazine, 7586 West Jewell Ave., Suite 200, Lakewood, CO 80232

Dear Sir,

Firstly, I don't, at least not yet, subscribe. Secondly, in my lighthearted perusal of several issues, I have yet to find a "letters to the editor" section. Thirdly, I would like to comment on an article that appeared in the November, 1991, issue.

I did not particularly enjoy reading your assessment of Chris Ambler's FSUUCP. Now, while I have never used his software, I am very familiar with the Internet, Usenet, and UUCP. Your complaints against FSUUCP are really complaints against Unix, as you freely admit. What I can't truly understand is do you, or do you not, enjoy using the software. This point is not made clear.

This article has the appearance of being random comments from a variety of people, and does not read well. This does not speak well of editorial guidance in your organizations approach to software evaluation. Every piece of literature has an intended audience, including most especially software. Given that the majority of Usenet/Internet connected machines are indeed running Unix, and that most of the people who will immediately benefit from a PC port of UUCP are aware of these machines and the underlying network are Unix aficionados, I would say that, Chris Ambler has correctly targeted his work. So the software isn't easy for the average MS-DOS user. This was obviously not the initial goal.

I would like to ask you whether you have profiled Waffle, perhaps in an earlier issue? I'm sure you must be aware of this BBS/UUCP package, as you include the support BBS "Dark Side of the Moon" in your national list of electronic bulletin board systems and on-line information services.

Finally, I would like to see a more coordinated approach to rating software, and I would like to see you give voice to the comments that your readership must surely be submitting. Until then, I remain unsubscribed.

Sincerely yours,

Willard Dawson, Software Designer
BellSouth Advanced Networks
Roswell, GA
gatech.edu!vdbsan!willard!dawson

Willard:

Firstly, you are in the majority. We can now officially note with some definitive confidence that there are more people in Georgia who do NOT subscribe to Boardwatch than do and Georgia is one of a total of fifty states in the U.S. where this is probably so. Nonetheless, we're pleased to hear from you. We do indeed have a "Letters to the Editor" section, space permitting, and it has proven popular beyond all reason. I don't read letters to the editor in other magazines and didn't have them in Boardwatch for a long time. We actually did have requests for such a function and I reluctantly added it. As I recall Jim Dummeier, an infamous Ohio bulletin board operator of some repute pretty much insisted on it, and then he's never written us a letter. For some reason, our readers like them. Go figure.

Do I enjoy using the FSUUCP software? Interesting question. The concept of actually intentionally duplicating the savagery of the Unix command line you seem so enamored of on a DOS machine is, er,...creative. I didn't realize anyone would think it was important whether I "enjoyed it." Maybe I should include an "enjoyability" factor in future reviews. Actually I'm going to guess there are very few software programs I "enjoy" using. It may come as some surprise to learn that my relationship with software, and indeed computers, alternately resembles a race riot under the influence of bathtub gin and a pit bull convention. The more useful a program is, the more inclined I am to use it. And the more I use it, the more irritated I generally become with its shortcomings. I detest XYWRITE thoroughly but wouldn't dream of using anything else to write with. I've actually written

Microrim letters expressing exasperation with the horrible mess they've made of a miserable R:Base database but haven't found anything better for what I need to do. I admire some software. I use quite a bit of it. Never thought of it as a source of enjoyment.

I think my comments vis a vis FSUUCP were right on the mark with regards to the intended audience. And I didn't arrive at what that audience was by finding it in a cloud. I met Mr. Ambler in person at FidoCon91 where he demonstrated the software and corresponded with him at LEAST a dozen times by e-mail and four or five times by voice in preparing those randomly assorted comments you take exception to. Unix people HAVE Unix. And they have readmail. And they have readnews. They don't need FSUUCP for anything as nearly as I can tell. The entire concept of the program is to put those functions on DOS machines for people who use DOS machines. Most of our readers use DOS machines. And there is a great deal of interest in participating in Usenet News Groups and Internet e-mail from the DOS platform. That said, I DID note in the review what Ambler was trying to do. And I think he did it reasonably well. Said so in the article as I recall.

FSUUCP is very much a work in progress, as Mr. Ambler will be the first to admit. It holds much promise, and currently some problems. Release 5 is due this month. But actually, I do use the program daily. We not only use it to port Internet mail, but we're actually using it as the office e-mail system on our LAN now. I've written a program to interface it to the TBBS message base - affording callers to the BOARDWATCH BBS at least with a reasonably easy to use method of sending and receiving e-mail on the Internet WITHOUT the Unix command line. With a couple of daily calls to our Colorado SuperNet host, it is as easy to send e-mail around the world as it is to send it across the room - literally. On our LAN, by entering the command MAIL and an address from the DOS command line, I can create a message to the recipient. MAIL DHAKALA sends a message to David Hakala in the next room and MAIL MKAPOR@EFF.ORG sends one to Cambridge Massachusetts. Likewise, I can reply to either one with the same ease. I think this is a pretty neat function

of the combination of FSUUCP and an Internet account - so I guess I ENJOY it about as well as I'm going to enjoy a piece of software.

But I can't export an individual message to a text file, can't address a new message from within MAIL, and using readnews has so far resulted in nothing but smoke, debris, and a lot of loud noises on my machine. We had a LOT of difficulty installing it and I'm going to guess for a lot of DOS users, the setup is a little forbidding. In summary, no I don't "enjoy" using FSUUCP. It is a worthy opponent to do battle with on a daily basis to perform a useful function I do want to perform. I admire it, I use it, but I don't enjoy it.

As to editorial guidance and the lack of readability in the article, you're complaining to the right guy. I'm all the editorial guidance there is around here and if you didn't feel the article was up to the quality you're accustomed to in a periodical - well, I failed. I don't like to fail, but it happens. I'll try to do better next time. It was a tough piece to do. It took a new release of the software to even get running on my machine and with my host. And while I wouldn't select this article as an example of my very best written work, I did what I could. By way of weak defense, I would ask you to consider all the magazines on the newsstand you find DOING articles on beta software, in communications, with the kind of function and complexity of FSUUCP.

I'm going to guess that a more coordinated approach to rating software is not in the offing here at Boardwatch. I'd further guess I'd like to have one, but I'm not sure I know what one is or how to get one. I pick the programs that catch my fancy, try em out, and write what I like and don't like about them. If they have NO value, I just don't write about them at all. You won't see a BOARDWATCH SELECT LIST OF BROKEN/USELESS SOFTWARE. If everyone else is writing about them, I usually don't bother then either. And there are some excellent programs, including Waffle, that we just haven't gotten around to yet. I had actually toyed with reviewing Waffle for this issue, and just didn't have enough time remaining to devote to a program that probably deserves a careful look. I probably don't

belong in the magazine business now that you bring it up and it's been a real mystery to me how I got here, but it sure is a lot of fun.

I have a copy of Waffle 1.64, have mentioned it in Boardwatch, and have spoken with Thomas Dell. We haven't reviewed it yet. I would guess it's on our short list of things to do, but I don't know when we'll get to it. The DOS/Internet connection issues are hard to do frankly. We're knocking them off a piece at a time but it's hard work.

So in looking over my response to your letter, I don't see a lot of good news in response to your probably valid complaints. We pretty much are what we are. We're trying to do better every issue. But I'd still like to have your 36 bucks if I could figure a way to talk you out of it. We're a small magazine covering a strange niche. We get our readers the hard way - one at a time - and we need every one of them. Despite the fact that you're obviously a persnickety UNIX type off fellow that works for a telephone company, I'd still like to count you among them.

For those who would like to review FSUUCP themselves, it's available in the file FSUU12R4.ZIP by ftp from polyslo.calpoly.edu in the /pub directory. Alternatively, it's also available from Mr. Ambler's FSBBS at (805)543-8227

Jack Rickard

Dear Jack:

Thanks for the reminder. I'm in the process of letting every subscription to computer magazines - PC Magazine, PC/Computing, Byte, PC World, Compute, PC Week, and Infoworld - expire (even though the latter two are free). The only one I'll have left is Boardwatch. I'm tired of hearing about Windows, I have unloaded it after a year of serious trial and will bet that although I do more task switching than 90% of Windows users I can do it better on a less glitzy and much faster program. I have my own choices for just about everything, and they seldom are some magazine's editor's choice; I'm tired of wading through more advertising than any magazine has a right to overwhelm their editorial matter with.

It may interest you to know I'm not a heavy bulletin board user and certainly don't aspire to run one. But the items of genuine interest to me that I never fail to find in **Boardwatch** are numerous enough to make reading it important, if not downright essential. Finally, I like good writing and Boardwatch has it.

Sincerely,

Dudley R. Briggs
Houston, Texas

Thank you Mr. Briggs. You bring up some interesting points. I think many readers are becoming jaded to some of the standard magazine fare. But you may have touched on a more important point.

When the PC world was developing, much of it was new and there were a handful of reasonably well defined reasons to use one - along with a handful of major application software programs. Today, there are 60 million people using PCs and a hundred thousand or more software programs. These people vary widely in technical proficiency and even interest, and the tasks range from geographic surveying to raising cockatiels to cave diving. To line up four or five programs, run them through some arbitrary test suite, and then proclaim one word processor etc. as THE one everyone should use, at this point may range beyond merely egotistically presumptuous, but border on being technically insupportable. I could tell you that Windows is the greatest thing since sliced bread, and Big Billie would be happy. But it would be meaningless. And I can't get the damn thing to work either.

In truth, there isn't anyone on the planet that could care less what I think about software. What they want to know is what's new, what it will do for them, and any notable features they can use in THEIR selection for their purposes. I write opinionated little reviews because its easier to talk about features that way in a readable form and not bore all of creation pantsless in the process. But I've never actually entertained myself with the misconception that anyone placed any value on my opinion per se.

Finally, I LIKE ads. The writing tends to be better than the editorial matter in many magazines. Tell me you read Computer Shopper for the editorial matter and I'll believe you read Playboy for the op-ed pieces.

In any event, that's pretty August company you've tossed us in there with, and I've very pleased you decided to stay with us.

Jack Rickard

Jack

I just want to congratulate you on one of the finest pieces of writing I have read in a long time. Somebody ought to put you on the Supreme Court.

You have a good sense of humor, can tackle touchy subjects with dignity and sensitivity, and you recognize the humanity in people on all sides of the issues you discuss. Besides, I agree with you.

Your editorials are worth the subscription price. I am not a BBS'er. Just got hooked on CIS in the last six months. Didn't have a modem from the early Potomac Micromagic 300 Baud version in the late 70's until I got one built into my Ergo Brick. Now I wouldn't think of going back to isolation.

Happy New Year.

Victor K. Heyman

Thanks Victor. Welcome to the ranks of the connected. Your not home alone anymore.

Jack Rickard

To David Hakala --

In your review of "Save the Planet" (Boardwatch Nov '91, pp 32-34), I can add only one comment: that instead of spending sixteen bucks to help support a non-cause, people would be much better off investing 20 bucks in a copy of Dixy Lee Ray's book, "Trashing the Planet" (1990, Regnery Gateway, ISBN 0-89526-544-3). It lays waste (so to speak) to many of the current pseudocrises, using cold, hard scientific facts instead of misunderstandings, hyperbole and outright lies.

Don Taylor
Turbo User Group

Dear Sir:

I recently got hold of your magazine from an American friend who works in Subic Bay, Philippines. He subscribes regularly to your magazine. His name is Bill English and works in NAESU, Cubi Point Philippines (subic Bay). He operates a BBS called BillBoard and is member of Fidonet 6:753/2

I also operate a BBS called Twilight Zone FidoNet 6:755/1 and we are gated through Subic BillBoard to Japan courtesy of Kazuyoshi Shinada 6:730/0 of Fidonet Tokyo. The Philippines has quite an active BBS community. We have about 40 BBS in operation from Manila to Cebu. I find your magazine really interesting but am not sure as to how to subscribe to it. Maybe you can send me details. The issues I got was May to August 1991. I'd like to get info on the price of issue to Philippines. If not I might just course it through a friend in the states.

I read in your May 1991 editor's notes that you had friend from Philippines. I was surprised to read anything mentioned about the Philippines in such a magazine. I see that you have a relative from the Philippines.

Anyway, I'd appreciate any information or contact that you might refer to me for BBS software exchange and BBS operations. I am currently looking for possible other links, exchange of BBS notes by mail with other BBS sysops there in the states since with the impending pullout of the U.S. bases in the Philippines, we will be losing our vital FidoNet link and will need to find other sources of BBS software. I currently operate BBS using Remote Access version 1.10, Imail 1.22, and Frontdoor 2.02. Previously we had a link with Metronet or Metrolink USA.

I hope that you can write back with more info about the BBS world there. It's kinda hard to get a magazine like yours here. I got your magazine since it was just given to me by Bill English. I'd be happy if you will be able to reply and

help in promoting the BBS in the Philippines by letting others in your country be aware that we also belong to FidoNet.

Thank you very much and have a happy New Year.

Sincerely,

Carlos Legaspi
5 Kaliraya Street
1113 Quezon City
Philippines
Twilight Zone BBS 6:755/1
Zyxel V32bis external modem
9600/14400 baud.

Carlos:

Don't be surprised by anything you see in Boardwatch. I'm seriously considering running an ultrasound scan in this issue. Yes, I guess I do have friends in the Philippines. My wife is from Catmon Bago Cebu. Her Aunt and Uncle are from Davao Mindanao and have lived with us for a couple of years. I was stationed at Cubi Point a bit myself although it's been 15 years ago. I'm quite fond of the Philippines and would just love to return for a few weeks. It's a very different pace of life. I don't recall any 20 hour work days when I was over there but I do recall some lazy afternoons on the beach, a couple of litson feasts, and oh, maybe seven or eight hundred bottles of San Miguel beer.

We'll publish your letter with your mailing and Net addresses. You never know who from among our Boardwatch readers might want to set up a link with the P.I. Could be an interesting project for someone. I don't suppose there's a BBS in Catmon is there?

Jack Rickard

Jack:

I read your issues (as does correspondent John Gulbenkian) always from stem-to-stern. Your publication is consistently *the* most interesting one amongst all the journals that pile up in this mailbox, and for that I am truly grateful.

Although not convinced that the "writing style" sets standards, I AM convinced of its uniqueness, directness,

lack of show & bluster, and of its essential honesty. All that comprises a fair compliment indeed in today's world of sugar-coated, glass-and-steel-hive journalism that is frequently rather patronizing and off-putting.

One thing Gulbenkian MISSED commenting on, though, was a sure-fire acid test for interesting and reader-seizing writing: re-readability. I find myself going through past issues of BOARDWATCH and always being pleased...there's so much interesting content that one always picks up a new facet or nuance, a new insight. Re-readability is a rare item today, and I believe you earn another Kudo for it.

I note the magazine's styling/format has gotten glossier, but the content remains as refreshingly straight-forward as always. Please! Keep it that way!

Best wishes and regards from a happy reader,

Tom Scott
Allschwil, Switzerland

Tom:

We've added a little shine at the behest of some advertisers and retail store managers. It's all done by a machine in Colorado Springs I think and I don't have much to do with it. As to content, I hope you find this issue more informative than the last, and its my intention that it be a bit better yet again next month. In theory, if we can keep that up for a few years the online world will have itself a magazine.

Jack Rickard

Hi Jack,

Just wanted to say thank you for sending me a copy of Boardwatch Magazine each month. I look forward to your magazine each month for a number of reasons. The most important one is we ALL find it to very informative on the cutting edge of tomorrow's news. Keep up the great work Jack!

Sincerely,
Nicholas P. Dodge
U.S. Robotics, Inc.
Skokie, Illinois

Hi Nick:

Just wanted to say thank you for making those modems. But I want them to work faster. And I want them cheaper. And I want more of them. (Stop me if you've heard any of this before...) Keep up the great work yourself Nick!

Jack Rickard

TELEBITS

RUMOR'S, MIGHT BE'S, NUMBERS CAUGHT IN PASSING

HAL 9000, the computer character in the movie *2001: A Space Odyssey*, revealed in the movie its date of birth: January 12, 1992. Happy birthday big guy. Daisey, Daisey.....

Persistent rumors indicate that with the death of creator Gene Rodenberry, *Star Trek - The Next Generation* will discontinue production as well. The show has done well in ratings leaving this a bit inexplicable, but clearly Rodenberry is sorely missed. Rumor has it that next season will be the last and that the producers plan a new show based on a space station in a black hole.

U.S. News and World Report claims that U.S. intelligence agents inserted a computer virus into a network of Iraqi air defense computers several weeks before the start of the gulf war. The virus was designed by the National Security Agency in Fort Meade Maryland to disable a mainframe computer. Apparently, U.S. intelligence agents identified a French-made printer that was to be smuggled from Amman, Jordan, to a military facility in Baghdad. The agents replaced one of the printer logic chips with one containing the virus. Once the printer was connected to the system, the virus invaded the mainframe causing havoc with the computer displays.

American Honda Motor Company Inc. has filed suit against a customer who allegedly tied up three toll-free 800 voice and fax lines from December 10, through Dec 14 until the company asked AT&T to block all calls from the 508

area code. Daniel Gregory, of Holliston Massachusetts was apparently a very dissatisfied customer. He had complained about the tires on his new Honda car and when he did not receive the attention he felt the situation warranted, he used an auto dialer to tie up Honda's voice lines for days and sent repeated multipage faxes to the company's toll-free fax line. Honda is seeking a restraining order to prevent Gregory from calling again and compensation for damages to its business operations. I don't suppose it would occur to Honda to just fix the guys car.....

The Pope has gone 900 it would seem. For a daily dose of Vatican chatter, dial **1-900-740-POPE**. The call will cost you a donation of **\$1.95** per minute to hear a daily recording by **Pope John Paul II**. The Pope gets a third of the collection plate. A somewhat less than holy AT&T and Global Telcom take 40% and 25% respectively.

According to the United States Catholic Conference, there are 879 million mackerel snappers world-wide. We did a story in our July 1989 issue on a Vatican voice mail telephone system that delivers a recorded Papal inspirational message from Pope John Paul II. The Pope records a new message each day in English, Spanish, and Italian via Vatican Radio - the Pope's Radio - which will then make it available via voice mail.

Italian 011-39-7779-3010
 English 011-39-7779-3020
 Spanish 011-39-7779-3030

It would appear this "direct line" to the Pope has been suspended and is now available exclusively via the 900 number.

LONG DISTANCE CUSTOMER COMPLAINTS How does your long distance service stack up with regards to customer complaints? The New York Public Service Commission released figures for complaints per 100,000 customers recently.

	1991	1990
AT&T	0.29	0.25
MCI	1.82	3.10
Sprint	1.18	2.04

From this, we might surmise that Cliff Robertson may be right, but the gap is closing. Further, the type of customer that would change from AT&T to MCI or Sprint during the post divestiture period is more likely to be both knowledgeable, and demanding of proper service. This could weight the figures somewhat in AT&T's favor. Further, AT&T has a significantly larger number of customers. In any event, MCI and Sprint seem to be improving while AT&T is actually losing ground.

And how about those local telephone companies? Are they a model of corporate efficiency or what? Teleconnect Magazine quotes data published by Professor Michael Noll of the Annenburg School for Communication indicating that NYNEX has very nearly captured the crown of the least efficient ratio of managers to workers in U.S. industry today. NYNEX sports 91,200 employees, 31,700 of whom are management. That's a Chief for every 1.9 Indians. Their employee-per-telephone-line ratio is none too good either with about 165 lines per employee.

QUOTABLES

"My, that's got every fire hydrant in America worried" - Arkansas Gov. Bill Clinton commenting on Dan Quayle's pledge to be a "pit bull" in the 1992 campaign.

"No more good must be attempted than the public can bear" - Thomas Jefferson (1743-1826).

"When I was born, I was so surprised I didn't talk for a year and a half" - Gracie Allen (1906-1964).

DELPHI BUYS BIX FROM McGRAW-HILL

General Videotext, parent company of the **DELPHI** online service, announced that on January 31st they purchased the **BYTE Information Exchange (BIX)** from McGraw-Hill. BIX had gained some notoriety as the online service of choice among the technical elite and had flourished under the affiliation with **BYTE Magazine**. **BYTE Magazine's** 250,000 subscribers tend to be among the more technically accomplished

among computer magazine readers. BIX was sold in a cash buyout for an undisclosed amount.

According to BIX Director Steven Laliberte, "The business structure of a print magazine makes it difficult to invest in capital equipment. This was hampering our ability to grow. I'm excited about the possibilities for new innovation under General Videotext."

The buyout included all the hardware and software, which will be moved to a new location. But according to Laliberte, subscribers will not notice any difference in operation. The move does hold some nearly immediate improvements. Billing/Accounting/Customer service will be handled through General Videotext. Additionally, General Videotext has a hookup to the Internet via NEARnet and connections to Telenet as well. BIX will offer Internet e-mail soon - Laliberte notes his e-mail address will be **liberty@bix.com** within just a few weeks. Additionally, a number of announcements of new enhancements had been on hold pending the sale.

According to Wes Kussmaul, the original founder of **DELPHI**, BIX will continue to be run as a completely separate online service from **DELPHI** and the relationship with **BYTE Magazine** would continue undisturbed. This was a key element of the agreement.

BIX has a rather unique pricing structure. Annual subscriptions to BIX (which are separate from and do not include **BYTE Magazine** subscriptions) are **\$156.00**, charged quarterly in \$39.00 increments. At the equivalent of \$13.00 per month plus carrier charges, BIX is slightly more expensive than its less focused competitors.

BIX can be accessed through three avenues: direct dial, via BT Tymnet's packet network, and via BIX's own BIXnet network. When called direct the user pays for the toll call but pays no additional hourly charges to BIX. BT Tymnet access is available at **\$6.00/hr. peak** and **\$3.00/hr. off-peak** from 7:00 pm to 6:00 am weekdays, and all day weekends. BIXnet access is available at **\$6.00/hr. peak** and **\$2.00/hr. off-peak** from 5:00 pm to 8:00 am weekdays, and

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For Information, Write: Bit Bucket Software, Co., P. O. Box 460398, Aurora, CO 80046-0398

Online and Downloadable Demos: Outer Edge BBS (303)680-6195, Short Line BBS (303)733-0773

Distributed By: GW Associates, Holliston, MA, (508)429-6227 Voice (508)429-1784 BBS
The INDEX System, Woodstock, GA, (404)924-8667 Voice (404)924-8472 BBS

* TBBS and TDBS are trademarks of eSoft, Inc. LEXI, Lotto Plus, OrderMax and Chat Master are trademarks of Bit Bucket Software, Co.

All software featured in this advertisement requires both TBBS 2.2 and TDBS 1.1 on the host system to operate. Some programs require ANSI/VT-100 on the user's terminal.

all day weekends. BIXnet access can also be provided on an unlimited, flat rate, off-peak schedule for \$20.00 per month.

You can obtain a BIX account by dialing your local BT Tymnet access port and entering **BIX** at the ID prompt, or by dialing direct at (617)861-9767. When BIX answers and prompts for your name, enter **NEW** to begin the registration process. BYTE Information Exchange, One Phoenix Mill Lane, Peterborough, NH 03458; (800)227-2983 voice; (617)861-9767 data.

Kussmaul originally started DELPHI back in 1982 as an online encyclopedia. The service received a boost in 1990 with a million dollar plus infusion of capital from the ASCII group in Japan. Recently, DELPHI has been experimenting with letting callers start their own forums online for a \$39 startup fee and \$15 per month maintenance fee. If their forums begin to draw other callers, they receive various incentives starting with free time on the system. The service also features some pretty attractive travel and restaurant review services and still carries the original Kussmaul Encyclopedia. DELPHI, 1030 Massachusetts Ave., Cambridge, MA 02138.

Kussmaul, while still serving on the General Videotext board, has moved on to start Global Villages, a communica-

tions related company. His vision: franchising the online/BBS concept to entrepreneurs and brokering relationships between online services and existing print and broadcast media. He'll be presenting some information on that topic at the coming ONE BBSCON scheduled for August 13-16th in Denver.

AUSTRALIAN TELCO ATTACKS ILLEGAL MODEMS

Austel, the telephone regulatory authority in Australia, has launched a campaign to remove illegal modems from the Australian telephone network. The main targets of the investigation are modems made by U.S. manufacturers U.S. Robotics and some models made by Telebit.

In Australia, modems must undergo a rigorous testing process by the Australian telephone company to become "authorized" equipment. Operating unauthorized models can be penalized by a fine of up to \$12,000. The US Robotics and other high-speed modems are not authorized because they fail one or more of the Austel requirements. Common reasons for not complying include line isolation, line levels, and dial speed.

In most cases, the incompatibilities are very minor, but many U.S. modem manufacturers are loathe to produce a specific Australian model for the relatively few sales this would allow. Often, existing models will pass muster, but the companies don't even feel sales would be sufficient to go through the testing process. Austel somewhat dubiously claims that modems not adhering to the specifications pose potential problems including crosstalk into adjacent subscriber lines.

Austel uses a device termed a Subscriber Automatic Line Tester (**SALT**) to detect out-of-specification equipment on subscriber lines. But in the case of the U.S. Robotics modems, they found an even easier way. They simply looked at the FidoNet Node List - which lists HST capability. HST is a U.S. Robotics proprietary modem protocol. As expected, the number of HST listed boards in the FidoNet node list has dropped pretty substantially in the past few months.

Austel has generally not been levying the authorized \$12,000 fine - in most cases simply requiring immediate disconnection of the modem.

Hayes Microcomputer Products recently received approval for their ULTRA 96 model from Austel.

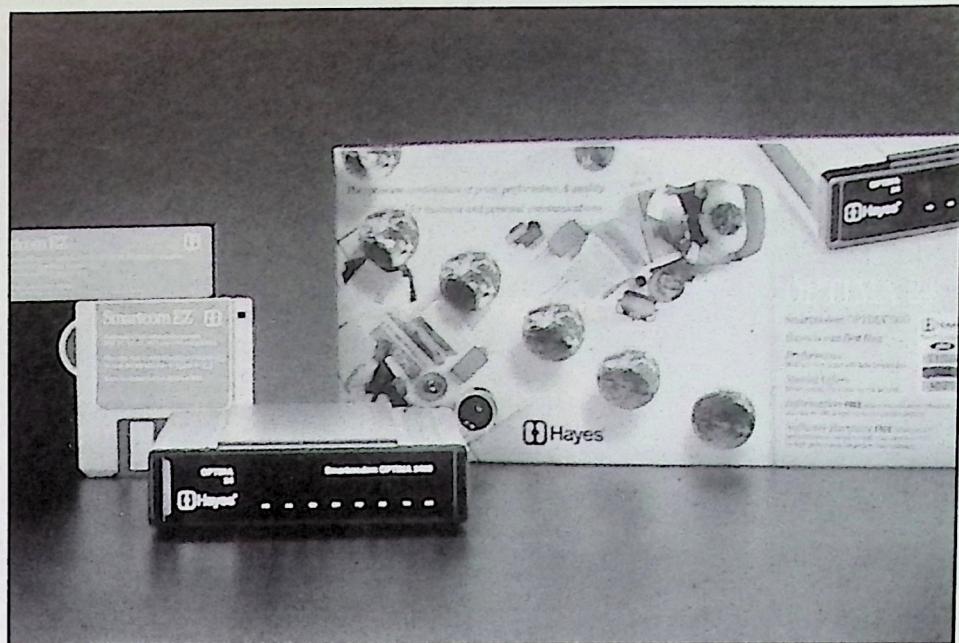
HAYES ANNOUNCES ISDN ADAPTER FOR NEXT COMPUTER

Hayes Microcomputer Products, Inc. announced the Hayes ISDN Extender, the first telecommunications network interface module providing Integrated Services Digital Network (ISDN) Basic Rate access connectivity to NeXT computers. The two companies have entered a strategic relationship to promote the use of ISDN and to provide low-cost connectivity to NeXT users worldwide.

The Hayes ISDN Extender provides an 8-pin modular connector to an ISDN Basic Rate telephone line and a 6-pin modular RJ11 connector to an analog telephone line. When used in conjunction with NeXTstep Release 3.0 and application software, the Extender can be used for remote LAN connections, as well as high-speed, digitized voice, data, fax modem, and multimedia applications. Hayes ISDN Extender takes advantage of the NeXTstep object-oriented application development environment, CPU, and the Motorola 56000 DSP in the NeXT to provide analog telephone network and ISDN connectivity.

"We see customer applications, such as remote LAN connectivity and evolving multimedia applications, driving the need for the higher speed transmission of ISDN," said Hayes President Dennis C. Hayes. "Therefore, Hayes ISDN Extender for NeXT computers with Release 3.0 is a logical and powerful combination. This is the first tangible result from our strategic relationship with NeXT and when Steve and I get together we have no shortage of good ideas. We are very pleased to be working with a company that shares our vision of global connectivity and ISDN."

"Dennis and I have worked together over the years to bring technology that has changed the way people work," said NeXT Chairman and CEO Steve Jobs. "And, with this announcement, we are continuing our tradition. This hardware/software solution gives our customers a low-cost, yet very flexible, solution for ISDN connectivity."



New Hayes Optima 2400 Modem

NeXT Computer, Inc. designs, manufactures and markets professional workstations based on the NeXTstep object-oriented system software. NeXT recently announced availability of this operating system for Intel-based microcomputers. NeXT, 900 Chesapeake Drive, Redwood City, California, 94063; 800-TRY-NeXT.

Hayes has also expanded its ISDN Developer Program to include support for the ISDN Extender for NeXT computers. The developer program is designed to provide qualified third party developers with support and information needed to develop applications for ISDN, and to complement NeXT's existing developer support program for the PhoneKit API. The program includes special product purchase programs as well as access to the Hayes Developer Verification and Test Lab, located at Hayes ISDN Technologies in San Francisco, California. Developers can also use the ISDN applications development laboratory, located in Beeston, Nottingham, England, that was established as

a joint effort by Hayes and GPT, Britain's leading telecommunications systems supplier.

Hayes ISDN Extender will be available April 1992 for an estimated retail price of \$349. They actually made the device available at the NeXTWorld trade show at a show special price of \$200. The relatively low cost of the device hinges on its reliance on the NeXT machines Motorola 56000 Digital Signal Processor (DSP) for much of the actual communications work. Hayes ISDN Extender carries a two year warranty.

Hayes also announced immediate availability of a new Smartmodem OPTIMA 2400 (OPTIMA 24) model modem, and lowered the price of Smartmodem OPTIMA 9600 (OPTIMA 96), a CCITT V.32 modem, by approximately 20 percent. The OPTIMA 24 supports V.42 error correction and V.42bis data compression.

While Hayes does not publish an estimated retail price for OPTIMA products, both OPTIMA 24 and OPTIMA 96 are marketed to the distribu-

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* Any resemblance Brand X has to Wildcat!, PC Board, RBBS, or Searchlight systems you may know is purely coincidental.

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Cardinal 9600V42 V.32	none	\$269	\$699
CompuCom V.32bis	(408)738-4990	\$329	\$539
CompuCom V.32	(408)738-4990	\$229	\$339
Galaxy Networks UFO V.32bis	(818)998-1758fax	\$299	\$999
GVC SM-96 V.32	(201)579-2380	\$379	\$695
Hayes Ultra 144 V.32bis	(800)874-2937	\$599	\$1199
Hayes Ultra 96 V.32	(800)874-2937	\$399	\$999
Intel 14.4EX V.32bis	(503)645-6275	\$399	\$699
Intel 9600EX V.32	(503)645-6275	\$299	\$599
Multi-Tech MT932EAB V.32	(612)785-9875	\$449.50	\$899
Practical Peripherals PM9600SA	(818)706-2467	\$339	\$699
SupraFAXModem V.32bis	none	\$249.95	\$399.95
Twincom 9600 V.32	none	\$279	\$299
U.S. Robotics DS V.32bis	(708)982-5092	\$499	\$1295
Ven-Tel V.32	(408)922-0988	\$499	\$899
Viva 9624e V.32	(805)499-9649	\$350	\$649
ZyXEL U-1496E V.32bis	(714)693-0762	\$370	\$695

tion channel aggressively to encourage a market price well below that of competitive products. The current advertised price range of **OPTIMA 24** is \$149 to \$199, while the current advertised price range of **OPTIMA 96** is \$349 to \$429.

"At Hayes, we believe we should be our own best competitor. With OPTIMA 24, we reinforce our commitment to providing the latest technology to all sectors of the communications market," said Hayes President Dennis C. Hayes. "If you liked the price of OPTIMA 96 in 1991, you'll love the price of both OPTIMA 96 and OPTIMA 24 in 1992."

Hayes operates a customer support BBS titled **Online With Hayes** at **404-HI-MODEM** or **800-US-HAYES**. The company expects to be one of the first bulletin boards in the country with an ISDN line - hopefully by the first of February. Hayes Microcomputer Products, Inc., P.O. Box 105203, Atlanta, GA 30348; (404)840-9200 voice; (404)441-1238 fax.

ELECTRONIC FRONTIER FOUNDATION OPENS WASHINGTON OFFICE

The Electronic Frontier Foundation announced January 15th the opening of a permanent office in Washington D.C. and named Jerry Berman, former head of the American Civil Liberties Union Information Technology Project, to direct its operations.

In announcing the move, EFF President Mitchell Kapor said, "The creation of the Washington office and the appointment of Jerry Berman demonstrates our commitment to build a national organization. It will give the EFF the ability to effectively advocate policies that will reflect the public's interest in the creation of new computer and communications technologies."

Jerry Berman, incoming Director of the EFF Washington Office, stated that, "Our goal is to be the public's voice in Washington on these issues, and to help create policies that will maximize both civil liberties and competitiveness in the new social environments created by digital media."

"The EFF," Berman continued, "is hard at work developing initiatives that will ensure that all present and future 'electronic highways', from the telephone network to the National Research and Education Network, enhance First and Fourth Amendment rights, encourage new entrepreneurial activity, and are open and accessible to all segments of society."

Jerry Berman was until December 1991 director of the ACLU Information Technology Project. Previously he was the ACLU's Chief Legislative Counsel in Washington, D.C.

During his career, Mr. Berman has played a major role in the drafting and enactment of the Foreign Intelligence Surveillance Act of 1978 (warrants for national security wiretapping); the Electronic Communications Privacy Act of 1986 (warrant requirements for new voice, data, video electronic communications); and the Video Privacy Protection Act of 1988. Over the last two years, he has spearheaded efforts to establish public access rights to electronic public information.

Mr. Berman has authored two recent policy papers. With Mitchell Kapor, he has co-authored *Building the Open Road: The NREN as a Test Bed for the National Public Network*, to be published in Building Information Infrastructure (B. Kahin, Ed. McGraw Hill 1992). He also wrote a policy paper on *The Right to Know: Public Access to Electronic Information* in Newberg, Paula ed. New Directions in Telecommunications Policy Vol.II (Duke University Press 1989).

Jerry Berman, Director, Electronic Frontier Foundation, 666 Pennsylvania Avenue, Suite 303, Washington, DC 20003; (202)544-9237 voice; (202)547-5481 fax Email: jberman@eff.org

ERICSSON GE UNVEILS PORTABLE WIRELESS MODEM

On January 28, Ericsson GE today unveiled the **Mobidem**, a portable wireless modem. The Mobidem provides two-way wireless data communications connectivity for palmtop, notebook, and laptop computers as well as industrial

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hand held terminals. Utilizing Mobitex wireless data networks operated by RAM Mobile Data USA Limited Partnership and Rogers Cantel in Canada, the Mobicem supports automatic nationwide roaming for PC users that travel around town or across the country.

Weighing less than a pound and housed in rugged plastic with flexible, fold-down antenna, the Mobicem has a list price of \$1,795. Ericsson GE has received FCC type approval for the Mobicem and is planning to begin initial shipments by the end of the first quarter. Volume production will commence during the second quarter.

Applications include: wireless E-mail, acknowledgment paging, dispatch, and sales force management as well as other mobile messaging and wireless data communications."

Small, lightweight, and durable, the Mobicem can be connected to any PC that sports an RS-232 serial port. Operating at a data transmission speed of 8 kbps, the Mobicem offers data rates comparable to leading wireline modems without forcing the out-of-office user to search for a telephone line and RJ-11 jack. In addition, the Mobicem acts like a pager by constantly scanning the network for incoming messages which can be stored in its internal buffer even when the connected PC is turned off.

Mobitex is a mobile data network designed to provide automatic nationwide roaming using packet switched wireless technology. With packet switching, a few seconds is ample time to transmit or receive a message, eliminating problems associated with intermittent fading or unexpected disconnections. Mobitex networks are operating in the United States, Canada, the United Kingdom, Sweden, Finland, and Norway. RAM Mobile Data, which recently announced the formation of a joint venture with BellSouth, owns and operates the Mobitex network in the US and the UK.

RAM Mobile Data's aggressive network deployment plans underlie the overall growth of the business. "We are providing service in 30 major metropolitan areas today, including New York, Chicago, Los Angeles, San

Francisco, Washington DC, Philadelphia, Baltimore, Orlando, and Boston and will provide service in 100 markets, comprising hundreds of cities and towns, within the first half of 1993. Network coverage will continue to expand aggressively thereafter," said Carl Aron, CEO of RAM Mobile Data.

The Mobicem will be sold through several distribution channels including direct sales to Fortune 1000 companies, Value Added Resellers (VAR's), and as the market matures, computer dealers and mass merchandisers. Bundled products will also be telemarketed by Ericsson GE. The first bundled offering is a personal wireless E-mail package call Viking Express. Viking Express was developed for use with the HP 95LX palmtop computer and the RadioMail gateway, provided by Anterior Technology of Menlo Park, CA. The RadioMail gateway provides comprehensive interconnection of the RAM Mobile Data Network to most public as well as private LAN based E-mail systems such as the Internet, ATTMail, and Lotus cc:Mail. A package with the Mobicem and the HP 95LX is being offered at \$1995. For additional Viking Express product information, call 1-800-223-6366.

For additional Mobicem product information, call 201-265-6600. Ken Ryan, Corporate Relations, Ericsson e-mail lme.lmekr@memo.ericsson.se

READ MAC DISKETTES ON IBM PC

Peripheral Land is offering a utility program titled **MAC TO DOS** that enables your DOS PC to read 3.5-inch 1.44 MB Macintosh diskettes. It allows you to view all folders and recognize ASCII, spreadsheets, or graphic files. You can even format a Mac floppy on the PC. Peripheral Land Inc., 47421 Bay Side Parkway, Fremont, CA 94538; (800)288-8754.

CANADA REMOTE SYSTEMS OFFERS UUCP CONNECTION

Canada Remote Systems, a 9000 member bulletin board system in Mississauga Ontario, announced they are now

offering UUCP host accounts allowing individuals to use UUCP transfer to obtain e-mail and Usenet NewsGroups from the Internet.

CRS had previously announced availability of Internet e-mail and Usenet NewsGroups via their PCBoard bulletin board system. The new service is a Unix system priced at a fixed cost of \$99 per year allowing one hour connection per day at speeds of up to 9600 bps. Systems requiring more than an hour daily to transfer mail can buy additional hours at \$99 per-year-per-day/hour.

CRS also offers a mail module for PCBoard systems to handle e-mail and Usenet NewsGroups. The module is priced at \$3000. Canada Remote Systems, 1331 Crestlawn Drive, Unit D, Mississauga, Ontario L4W 2P9; (416)620-1439 voice; (416)629-0771 fax; (416)629-7000 BBS.

COM3/4 UNDER WINDOWS

Windows may do many things for many people, but it certainly makes a better window than a door. For communications duties, this environment is hurting. But there are work arounds. In theory, you can't use **COM3** or **COM4** under Windows in Enhanced mode. Actually you can. The problem is that the internal comm driver in Windows thinks COM3 and COM4 are at port addresses different from those used by every communications program on the planet. The following addition to the **SYSTEM.INI** file under the **386Enh** section should take care of it.

COM3Base=3E8h
COM4Base=2E8h

PINNACLE ANNOUNCES VERSION 4.0 OF SAPPHIRE BBS

Pinnacle Software announced release of version 4.00 of their **Sapphire BBS** software. The new version expands on sysop customization while retaining the product's strengths in ease of installation and operation.

Sapphire sports a demonstrator mode allowing the sysop to try out the Sapphire system literally within seconds of copying the files to hard disk. This zero-maintenance easy installation design is aimed chiefly at small business owners who want a small BBS to handle files, but don't feel they have time to install, configure, and operate a more ambitious BBS package. Sapphire has developed some following among typesetting and translation companies.

According to Tim Campbell, spokesman for Pinnacle Software, Sapphire sysops consistently identify ease of installation as the most common reason for choosing Sapphire over other BBS software.

The Sapphire software supports 15 configurable message bases. File transfer, doors, and event processing are also supported. Sapphire can run on any IBM-PC compatible computer with any modem that uses the Hayes AT command set. A hard disk drive is recommended but not required.

Sapphire is shareware with a \$51 registration that includes a printed manual, voice support, and privileged access to Pinnacle Software's BBS. The program is available for download there at (514)345-8654. Source Code is available. Pinnacle Software, Box 714 Airport Road, Swanton, VT 05488; (514)345-9578 voice.

SUPRA 14,400bps V.32bis AND FAX MODEM FOR \$399.95

Supra Corporation has introduced an intriguing new modem with a very attractive price for BBS callers and operators. The SupraFAXModem V.32bis sports 14,400bps V.32bis with V.42bis and MNP1-5 data compression/error correction. Additionally, it also supports Microcom Networking Protocol (MNP) class 10 error correction. MNP-10 is primarily designed for use with cellular telephone applications and provides a very robust level of error correction.

Supra's new model also features Group III fax capability allowing callers to both send and receive facsimile transmissions at up to 14,400 bps theoretical-



SupraFAXModem V.32bis - New Price Point in High-Speed Modems

ly. Realistically, most Group III fax machines offer a maximum transmission speed of 9600bps. But with two of these Supras, you could increase the fax transmission speed by 50%. We'd like to see 14,400bps fax catch on.

The modem's front panel display includes a unique status display providing 25 different messages including connection rate, connection type, dialing, ringing, and transmission errors. This display looks something like a digital clock readout and conveys much more information than the usual display status lights.

Finally, Supra makes two features available through user-installable ROM chip upgrades - voice mail and caller ID. The voice mail function allows you to use the modem as something of an audio BBS. It will send, receive, and store digitized voice, generate and recognize touch tones, and sample at various frequencies.

The caller ID function will detect the telephone number of the calling party and pass it to the computer for storage or display. This feature only works in those areas where caller ID has been implemented, but should provide some very interesting security applications.

The modem uses a new Rockwell chipset and features a five year warranty. We liked the sturdy - and small - aluminum cases of these modems when we reviewed our first 2400 model in 1987 - and we still do. The basic case design hasn't changed a bit. About the size of a double deck of bridge playing cards, they run cool and take up little room.

Pricewise - Supra has always been frugal. This new model is available bare at \$399.95 or with packages for DOS, Windows, or Macintosh computers at prices up to \$479.95, including cables, Fax Software, Terminal software, and a box full of the usual online service discount coupons. The company currently discounts this modem to BBS operators at an enormously attractive \$249.95. Supra Corp., 7101 Supra Drive SW, A-



AQUILA BBS

Chicagoland's Largest System

Since 1988

Aquila has filled the computer screens of Chicagoland for over three years, growing from a single modem line system in 1988 to over 25 lines in 1992. Aquila's success over the years is due to the enthusiastic support of our users. New callers are encouraged to download our current file list and electronic mail conference listing. A short guided tour highlighting our system services is also available for new users. All of our information is automatically mailed to you to read in the comfort of your home or office. So pick up your modem and give us a call! You will find Aquila BBS to be the most valuable bulletin board in your dialer.

Programs - Thousands On-Line

Give your modem a workout! We add new shareware and public domain programs everyday. Over 400 programs are added weekly. With more than 5 Gigabytes of on-line storage, we stock over 50 thousand programs. Aquila makes it easy to find the programs that are important to you, by organizing them into 120+ file directory categories everyday.

We cater to the Windows User.

With Windows becoming the most popular user interface around, we make an extra effort to keep you supplied with the latest programs and enhancements by devoting a special conference area just for Windows containing 2000+ files organized into 40+ file directory categories.

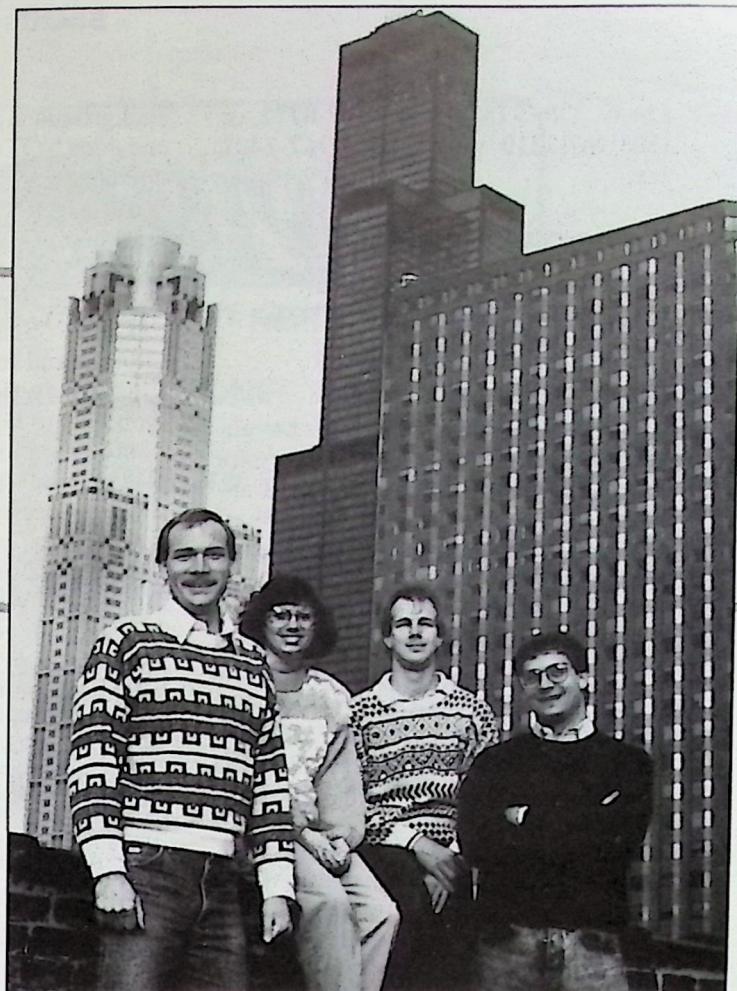
Our organization and the latest programs make our file areas the most popular around. These are just a few of our most popular categories available:

Diagnostic Utilities
System Enhancements
File Organizers
Word Processing

Computer Games
Music and Midi Sound Files
Computer Animations
CAD Drawing Utilities

Business - Finance - Tax
Novell and Lan Utilities
Database
Programming

Icons - Icon Managers
Wallpaper - BMP's
Multi-Media Related
Fonts - Font Utilities



The AQUILA BBS Team (Left to right: Kevin & Kristy Behrens, Steve Williams, Chris Babb)

New User Information

All first time callers receive by mail, our printed 'New User Information' and 'E-Mail Conference Directory' guide, as well as a 'Quick Command Guide' to help you get the most out of Aquila. The new user information covers system services such as answers to commonly asked questions, USA Today, Boardwatch Magazine, and Electronic Mail off-line readers. The 'Quick Command Guide' is a desktop lookup for using Aquila commands.

Aquila Starter Kit

Callers that are new to modem communications will find 'The Aquila Starter Kit' a great time-saver. Easy for the beginner and helpful for the expert! This \$39.95 kit includes the following:

Procomm (communications program)
Full documentation for all BBS commands
Off-line file browsing program

Our complete file listing on floppy disk
Off-Line E-Mail Reader
Three month basic membership

Around The World E-MAIL

Over 450 Conference Topics

We currently echo to and from ILink, RIME, Fido-Net and Throbenet with more to come in the near future. You can get virtually any question answered here and join in on lively discussions with people from across the country and around the world. We also publish our own 'E-Mail Directory' that is sent to all users of Aquila BBS. This directory lists all of our conferences by category and gives a brief description of the topic of each one. Here is a small sampling of over 450 interesting topics that we offer:

General Discussion
Computer Related

Vendor Support
Programming Languages

For-Sale
Current Events



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708-820-8344
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U.S. ROBOTICS ANNOUNCES MODEM SHARING PRODUCT FOR LANS

U.S. Robotics of Skokie Illinois has announced a new line of products they are calling *Shared Access*. The initial announcement including a Modem Sharing Kit Single Port and Modem Sharing Kit Double Port.

The Modem Sharing Kits allow you to pool modems as a resource device on a LAN, allowing any LAN user to seize a modem and dial out with it, and likewise, for offsite personnel to dial IN to the LAN using one of these ports.

The kits consist of V.32bis modems, cabling, On-LAN communications software for dialing in or out, modem sharing software for resource sharing, Off-Site communications software for remote users, and documentation. The Single Port model includes one modem. We'll guess the Double Port modem has two? The company claims an installation time of FIVE MINUTES and no ongoing support by the LAN administrator. The software installs as a

background task on any PC on the LAN and does NOT require a dedicated PC to operate.

USR quotes some Dataquest Inc. figures indicating that by 1995, 57 percent of all PCs, some 79 million, will be connected to LANs. "Shared Access is a very exciting brand for U.S. Robotics because it is the initial step in moving U.S. Robotics to becoming a broader-based communications supplier with LAN, WAN, and software product lines. Shared Access builds on three of our key strengths as a company," said Casey Cowell, chairman and president of U.S. Robotics. "We are a leader in making high-speed communications devices that work over the public switched telephone network. We are known for our easy-to use, low-maintenance modems. And our software division has produced especially robust and reliable software. Shared Access allows us to integrate these strengths, and assert technological leadership in the LAN marketplace."

U.S. Robotics, 8100 North McCormick Blvd., Skokie, IL 60076; (800)DIAL-USR voice; (708)982-5092 support BBS.



AT&T VideoPhone 2500

AT&T VIDEOPHONE

Predicting that video phones will be as popular in 10 years as cordless and cellular phones, on January 6, AT&T introduced a full-color motion videophone that uses the existing analog telephone network to transmit voice and video.

The new phone carries an enormously proud price of \$1499. The good news is that this is probably quite reasonable considering the unit contains a very capable and very advanced 19.2kbps Paradyne modem. The bad news is YOU CAN'T USE IT! There's no provisions for connecting the modem to a computer. It's used to transmit the compressed voice and video data.

The AT&T VideoPhone 2500 features a 3.3-inch color liquid crystal display and a 1/3-inch fixed focus color camera on a tilt-swivel assembly. The camera has a focal range of one to nine feet. The system lets you adjust brightness, view yourself in the display to adjust the picture, and transmits frames at 10 frames per second (ordinary movies operate at 24 frames per second normally and television is viewed at 30 frames per second). An adjustment allows you to trade off resolution for motion with 10 frames per second representing the maximum motion speed.

The phone also features a privacy shutter allowing you to prevent picture transmission. It will appear in AT&T phone centers in May and the company also plans to rent the phones for \$30 per day. The VideoPhone is NOT compatible with any other video conferencing system on the planet. AT&T, 5 Wood Hollow Road, Parsippany, NJ 07054; (201)581-3905 voice; (201)428-8553 fax.

The key to the AT&T phone operation is compression of the video data - developed by Compression Labs, Inc. of San Jose California. And CLI is introducing a product of their own - a video conferencing peripheral initially for the Macintosh and soon available for IBM-PC compatibles. The \$2095 Cameo Personal Video System Model 2001, unlike the AT&T VideoPhone 2500 actually requires an Integrated Services Digital Network (ISDN) line - but transmits pictures at up to 15 frames per second in a 128 X 112 resolution. The

system consists of a camera module that sits on top of the Mac monitor and a CODEC interface that connects to the Mac serial port. It requires an ISDN card in the Macintosh as well as a RasterOps 364 or 24STV card. Also unlike the AT&T product, Cameo allows users to also pass data files and it will connect with CLI's upscale Rembrandt II/VP video conferencing systems. Compression Labs Inc., 2860 Junction Ave., San Jose, CA 95134; (408)435-3000.

MICHELANGELO VIRUS THREAT

A somewhat virulent software virus program titled MICHELANGELO, believed to originate in Eastern Europe appears to be on the loose. The virus is particularly nasty in that it does not effect files on the hard drive detectably, but instead travels in the boot record of floppy and hard disk drives. It ostensibly "wakes up" on March 6, Michelangelo's birthday, and proceeds to scramble file allocation tables, ruining access to the data on the hard drive.

Leading Edge Computers reports that as many as 500 computers were in all likelihood shipped between December 10 and December 27 with the virus infection.

The virus is not really detectable by programs that monitor .EXE file sizes on the hard drive because it doesn't actually modify any of them. The good news is that it is very unlikely such a virus could travel by modem - rather from infected floppy diskettes via the boot record. It can be detected rather easily. A CHKDSK command will render a RAM reading about 2KB lower than the normal 655K displayed indicating the virus.

BBS PRESS SERVICE FOLDS INFO-MAT

Alan Bechtold, head of BBS Press Service of Topeka Kansas, announced in January the demise of INFO-MAT, a weekly electronic publication distributed to over a 120 BBS systems globally.

INFO-MAT, a weekly computer news magazine distributed only in electronic format, was one of the pioneers in



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electronic distribution of periodicals. First founded in 1984, the weekly enjoyed a readership estimated at 20,000 readers. Over 400 BBS carried the product at its peak and some 120 at the time they pulled the plug.

For many years the publication was free to BBSs and Bechtold's vision was of an electronic magazine supported by advertising revenues. But results from online advertising were scanty and few companies were willing to experiment with the new media.

In 1990, INFO-MAT began charging BBS system affiliates a modest quarterly fee of \$25 and lost a few affiliates. Despite the fact that many operators and callers really liked the monthly update on computer news, the product never actually had a profitable month and according to Bechtold "reality set in and we pulled the plug - we may have been just a few years ahead of our time."

According to Bechtold, the product was read widely, but the advertising just didn't seem to pull and it never found the kind of repeat advertising business needed to make it go.

BBS Press Service continues with *Online Digital Music Review* - a bi-weekly review of Compact Discs, and *Business Sense*, a bi-weekly entrepreneur advice column. They also plan the introduction of a *Video Review* as well.

Bechtold actually started his journalism with small circulation print magazines. He and his son Travis are also returning to print with a small tabloid titled *Midwest Sports Collector*. Both are avid sport trading card collectors and after noting some 50 promoters in the Topeka/Kansas City area where as many as eight trading card shows are held each weekend, they decided to start a publication to serve these collectors. Baseball cards vary in value from 5 cents to \$27000 and the hobby is booming.

Bechtold also operates the ODMR Roundtable on the GENie Service. BBS Press Service, 8125 S.W. 21st Street, Topeka, KS 66615; (913)478-3157 voice; (913)478-9239 data.

ONE BBS CON - CALL FOR PAPERS

Plans for the Online Networking Exposition and BBS Convention (ONE BBS CON) continue to develop. ONE, Inc. has completed negotiations for discount air fares with both United Airlines and Delta Airlines to provide attractive discounts on air fares to those attending the convention. Over a thousand BBS operators and online aficionados are expected to gather in Denver this coming August 13-16 for three days of sessions on operating online services.

Highlighted during the convention will be a session track on how to operate a BBS for profit by Jack Rickard and Phil Becker. Two sessions on this topic were presented last August at the FidoCon91 to standing room only crowds. This year, the topic will be blown into a full track with multiple sessions on various aspects of successful BBS operation, presentations by MC/Visa Merchant Account providers, and discussions of the economics of operating a for profit BBS operation. Becker and Rickard are expanding their research among BBS operators who do turn a dollar pretty handily and the presentation this year should wind up being a full day of how to do it and why you might want to.

Other tracks will cover networking, with presentations on Internet, FidoNet, RIME, and ILINK, legal and social issues affecting the online world, and presentations by a variety of BBS software vendors.

A number of people have already lined up to help with the educational aspects of the convention. Michael Bean of the Arizona Mac Users Group will head up a track on BBSing on the Macintosh. Lance Rose, author of the second edition of *Syslaw*, a legal manual for BBS operators due out in March, will manage a track on legal/social issues. The Electronic Frontier Foundation is expected to give presentations on the EFF and on their proposed National Data Network. Stacy Horn of New York's

ECHO will head a roundtable discussion of Women Online. Steve Lent and Robin Martinez of the Greater Kansas City System Operators Association will head a roundtable on FIGHT BELL, a discussion on how to deal with the current battle with RBOC over BBS telephone service rates. Tom McKelvey will join in with experiences with the same problem in Virginia. Sparky Herring will do a session on .QWK offline mail readers. Bob Ostrander will represent the ASP and discuss some new standards for file descriptions on BBS.

And of course, we'll be holding an awards ceremony announcing the results of the **Boardwatch 100 Reader's Choice BBS Contest**.

The final session plan is still in deliberation among the One, Inc. Executive Advisory Board. Any one who would like to present a paper at ONE BBS CON on any online related subject can submit proposals to Peg Coniglio, ONE, Inc., 4255 South Buckley Road, Suite 308, Aurora, CO 80013; (303)693-5253 voice or (303)693-5518 fax - or contact any Executive Advisory Board member to discuss a proposal.

VIRTUAL REALITY - HOW REAL - HOW VIRTUAL - HOW COME?

There are a thousand things to do online, but we can roughly sort and toss them out into three broad categories: acquisition, communication, and tele-tourism. Acquisition probably provides the most powerful draw right now. Using a modem and PC you can acquire tools and information - download software programs, retrieve text files, and search databases for particular items of information you might put into use. Communication activities, on the other hand, allow you to reach out and keep from touching someone - leaving them an e-mail message instead to convey an idea, direct some action, or request some sort of feedback.

The third online function, tele-tourism, is at this point the least mature, probably the least useful in a nuts and bolts sense, but at the same time the most engaging, decidedly the most addictive, and suggests a powerful area of expansion in our online future. It also embodies much of

the romance of being online. This function presents our minds with the illusion that we have actually traveled somewhere else. While we sit in our den or living room, typing at a keyboard, mentally we enjoy the illusion that we ARE somewhere else. Bulletin board menus and online games tend to support this illusion, particularly in the case of role playing and adventure games. Social/chat services essentially act as singles bars where people congregate, talk, and on some systems actually play poker or other interactive games with each other in real time. This not only gives a sense of belonging to something, but actually a sense of BEING somewhere.

That this happens given the rudimentary text and ANSI graphics of today's online services is a bit startling when you consider it. It's largely an internal mental illusion with just a scant stream of incoming data to support it. The promise of higher modem speeds and emerging graphics standards points to a coming richer panoply of sensory data that could vastly expand this illusion. While the multi-media buzzword comes to mind, we're personally more intrigued by another - Virtual Reality.

Virtual Reality has to do with the presentation of symbolic visuals representing another reality. This could be an entirely fictional one, but would more usefully be a real - but otherwise inaccessible one. One of the potential problems with a richer graphics data presentation is that it requires more data. To avoid cartoonish visuals that actually detract from the mental illusion requires impressive artistic skills few online services can muster. On the other hand, it COULD use REAL data, presented graphically.

One of the areas that we find utterly fascinating is currently mired in a boredom of bleached practicality - Geographic Information Systems or GIS. An entire micro-industry is springing up around the acquisition of data - primarily map and topographic data - and the presentation of it visually. An enormous database of such data is gradually coming into existence and some of the tools used to manipulate and present this data are absolutely mind boggling in what they are doing. For fair or foul, this is all driven by a very

profitable, and slightly boring requirement to be able to locate sewer lines, telephone lines, plan street developments, and some geographic type survey and planning issues. But some pretty sexy technology is providing dramatic gains, including readily available data from the government, new Geopositioning Satellite networks allowing unheard of accuracy in surveying, and of course tons of satellite data on topography and land surveys.

One publication covering this in a pretty thorough and capable manner is *GIS World*. I don't know if these people just don't GET the romance of this field or if they are intentionally underplaying it, but the articles tend to be scholarly, scientific treatise devoid of any sense of the magic they are talking about. But they provide a technically thorough review of developments in the field and do some pretty dramatic color photography as well. A recent issue, for example, presented a stunning color graphic of the hole in the ozone layer over Antarctica generated from satellite data provided by the National Space Science Data Center at the NASA/Goddard Space Flight Center in Greenbelt Maryland. Whether the data is accurate or not is immaterial, the graphic shows one big beautiful vortex-type hole convincingly enough that I wouldn't want to get too close to the edge of it.

Another article describes a **Global Ecosystems Database** available on CD-ROM that contains data on the entire planet on a 1/6 degree grid with monthly vegetation index from 1985 to 1988, monthly temperature, precipitation, cloudiness, life zone classifications, land use, soil properties, elevation, terrain and surface characteristics, etc. for use in Ecosystem modeling programs. The data was produced by the EPA's Environmental Research Laboratory in Corvallis Oregon and the NOAA's National Geophysical Data Center in Boulder, Colorado. (For more info on this CD-ROM, contact Peter Beedlow, chief, Terrestrial Branch, Environmental Research Library, U.S. EPA, 200 SW 35th St., Corvallis, OR 97333. This was one of several CD-ROMs coming into being under the national Global Change Research Program. The bottom line is that our entire planet is gradually being mapped into data sets available from the govern-

ment/governments at very reasonable cost. And the sewer chasers are devising some thoroughly fascinating technology to present and interact with these data sets. If you want to get a handle on this, check out *GIS World*, PO Box 8090, Ft. Collins, CO 80526; (800)-447-9753 voice; (303)223-5700 fax - \$60 per year.

Rocky Mountain Communications markets a 5 CD-ROM set of elevation data in MS-DOS file format providing **3 arc second** terrain elevation data for the contiguous United States, Hawaii, Puerto Rico, and the Virgin Islands. Each file is a **1201 X 1201** data matrix and consists of an equally spaced elevation data point every 3 seconds of arc within a complete **1 X 1** degree block and very precise corner latitude and longitude for each file. The entire set, with CD-ROM, retails for **\$3000**. Rocky Mountain Communications; (303)231-9373 voice; (303)231-9581 fax.

Other projects are underway as well. Satellite mapping operations of Mars and Venus are pretty mature at this point and extremely detailed topographic data is available. In the JPL labs, and at aerospace companies such as Martin Marietta, software queens have been busy building graphic presentations of this data to the point where short animated presentations appear to allow you to swoop in over mountain ranges, ravines, and plains of these planets - and note that all are generated from fairly accurate REAL data taken from the planets. You're seeing a very close approximation of what you would see were you there, (sans poisonous gases and probably no visibility in the case of Venus) NO ONE has actually been there.

Allow me a page of babble here and let's apply a little playful imagination to these developments. Because of the inherently large data sets involved in producing this type of virtual reality, it's not particularly likely that picking up a six pack of Mars and running it on our home PC is practical at any sufficiently detailed level. However, should we actually install something like the National Public Network envisioned by Mitch Kapor, the higher data rates (as much as 144kbps almost immediately) afforded by an ISDN telephone network, it is not inconceivable that one day VERY soon

you will be able to logon to the MARS BBS somewhere and wander about the planet quite as if you were there. I suppose a system could even be set up where callers could login and cooperatively interact with each other to build a simulated colony and evil sysops could pose various environmental challenges to see how they would react to solve the problem - not entirely invaluable role playing games if we did in fact decide that someone needed to go there in **REAL REALITY**. Another BBS might provide **VENUS** online. Similarly, a third could serve a similar function for **EAST ST. LOUIS** or **BROOKLYN**. Gads, what I wouldn't give to see West Memphis again.

If you follow this evolution to its logical extreme, we see a series of ever closer successive approximations of reality available online covering our entire planet. At some mythical horizon point some decades hence, the entire surface of the earth and neighboring planets would be available from a screen in your living room very nearly in real time. A predictable advance in current technologies shows the line between real video and data video begins to blur. Reverse the process to interject a data representation of YOUR image into the data set where others logged on can also see YOU, and the Star Trek transporter is figuratively a done deal - and the refrigerator remains a handy 14 feet away at all times - just a few steps beyond your own home potty room. Scotty won't even have to beam you up if you get in trouble - just log off and go have a sandwich.

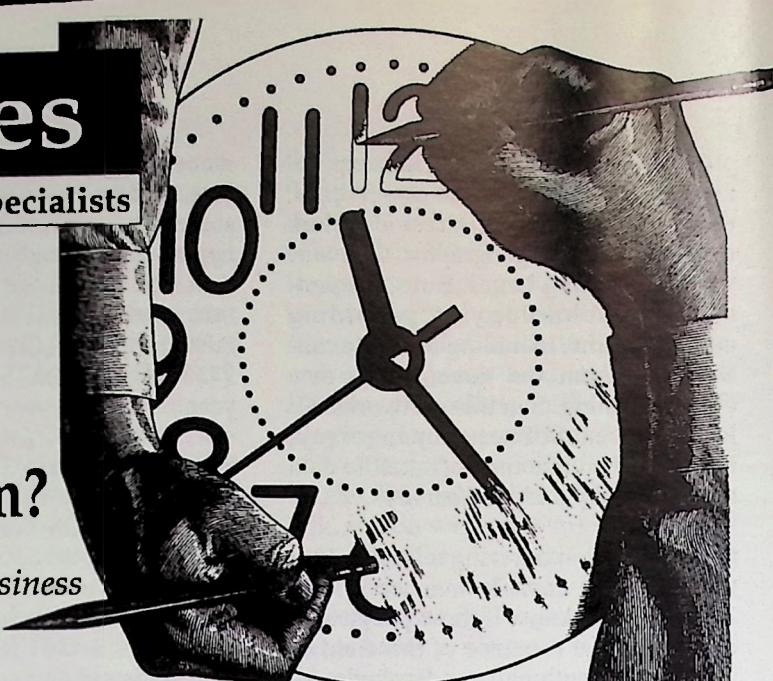
And the economics of it are just unfathomable. Some poor future Jacques Cousteau is going to be under incredible pressure to complete the installation of the data capture/update net in the bottom of the Mariannas Trench so millions of viewers can make the trip. You could host a party there - online. Everyone with a video screen and a data port can be an explorer. Space exploration would be almost instantly self-funding. Demand for access to the Saturn data set could mean billions of dollars. Where our machines could be sent, our entire population could travel to shortly thereafter by proxy. So the impetus would be to send them - and more of them - with finer resolution and faster data transmission capabilities. A "mother ship" would

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Installing Commercial BBS Systems Is Our Only Business



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There's a lot available for the TBBS/TDBS System Operator, as well as for anyone interested in an Information System (BBS). If you want to learn more about TBBS/TDBS just call our system and look through Our Demonstration and Sales Area and register as a customer. GW Associates offers full support to all System Operators and we have several excellent programmers available to help with your applications and customization. Please call our system at (508) 429-1784 (N,8,1) and keep up with our new releases or call us on our voice line at (508) 429-6227 if we can help you in any way. Installing and remotely supporting commercial systems is our ONLY business!

TBBS/TDBS SYSTEM ENHANCEMENT SOFTWARE

User Manager

User Manager for TDBS systems is a full membership registration and tracking system that creates a true member data base. Its capabilities include keyword search and on-line user resumes to allow users to share information about themselves, a note pad to let you keep notes on individual users, membership tracking and expiration date notification, automatic changes in user access as users join as members or memberships expire, etc. Users can join as members or renew their membership using credit cards on-line. And User Manager now has several additional modules, such as a small on-line sales module, a user reminder module and a software update module. The program is priced at \$69.95.

User Manager - Software Module

An all new program that works with the User Manager to automate the updates of software to customers. You enter the user registration of software sales and any time you upload a new version of the software it will automatically present the updates to customers registered for that software package and give them the prompt to download it. This package also tracks all sales and prints reports on sale by customer or by software package, and by whatever time period you specify. Designed to reduce or eliminate the time and expense invested in updating software by mail. Please call for more information and price.

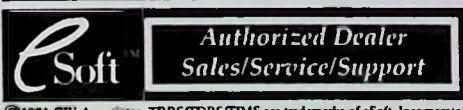
Sales Manager

The powerful and productive On-Line Sales Manager. This on-line catalog sales program is written by Jeff Johnson, another pioneer in TDBS software, and it easily shows the power and capabilities of TBBS and TDBS. The Sales Manager will display a catalog of items for sale under categories you specify, each item can have a full descriptive text file attached to it and the user can place an order at any time and continue to browse through the catalog. When done the user selects to order and is presented with each item and given the opportunity to indicate how many are to be shipped. Developed as a modular package this software will handle everything from a low level order entry system to a fully featured point-of-sale package and do all the things you would expect of a full sales package. Please come and work with it on-line. This program is priced at only \$395.00.

Connex - The Connection Exchange

Connex is a professionally-based biographical, friendship, and matchmaking program designed to be used with TBBS and the TDBS option module. It allows members of your BBS to enter their own unique personal attributes, personality profile, and free-form interview. Upon completion of the user's profile and interview, Connex allows the user to make detailed selections, based on the user's own preferences. Over 350 man-hours in research and production, based on such works as Freud, Jung, and other psychological professionals, were required to create Connex and it is the most comprehensive software of its type available. Connex is complete with three databases, a biblical quote database, a gay oriented quote database or the original database. This program is priced at \$139.95.

Call our Sales and Support BBS for full demonstrations on over forty TBBS and TDBS add-on application, entertainment and utility programs



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Data Line (508) 429-1784

release a swarm of thousands of probes blanketing the planet with the mother ship aggregating the data and transmitting it back to earth. CCITT would be in heated debate over an odor standard. And individual callers could superimpose *Pachelbel: Canon in D* over the din of the storms of Jupiter if they found it more soothing.

And the concept of some form of global virtual reality travel is not so very far away. We can see the first crude tools coming into play already. Virtual Reality Laboratories, Inc. of San Luis Obispo California has introduced some fascinating programs that produce images from data sets. Their Vistapro for the PC produces crisp landscapes on your PC screen. The user sets a "camera" and "target" position on a map and the program renders a three dimensional painting-like view in a few minutes. Tour Mt. St. Helens before and after the eruption. Set your camera up in the cauldron of Olympus Mons Mars and look around. Add trees and rivers and lakes. The program causes water to know how to flow downhill, lets lakes fill to their true level, stops trees from growing on cliffs, and tells snow when a rock is too steep to cling to. And the output created from government data sets is intrinsically not a copyright issue.

Arthur C. Clarke, author of *2001: A Space Odyssey* tried Vistapro and commented on it to Stanley Kubrick. Clarke allowed the company to excerpt the fax in their literature:

"I've been generating 'artificial reality' images (colour and 3-D!) based on a fantastic program called Vistapro. (Virtual Reality Labs). But for the sake of our old friendship I'd better warn you - if you get it into your computer you'll never do any more work! I'm getting a later version installed this weekend (I hope) which produces images of almost photographic quality...so I can explore all the interesting places on Mars! They can also be animated to show the kind of fly-by you may have seen on TV recently from JPL for Venus. But that's only half the fun. I can then modify the landscapes by putting in rivers, lakes, stars, trees, haze, vegetation in almost every conceivable way - so I'm busy 'greening' Mars! I'm so excited by this



VistaPro Rendering of Grand Tetons from USGS Numerical Data

that I may fly out Vistapro's co-developer to speed things up and teach me the program's bells and whistles."

Subsequently, Clarke did have the developer flown to his home in Sri Lanka - a once in a lifetime experience for the programmer.

The accompanying picture of the Grand Tetons is not really illustrative because the original is of course in color and we're presenting it in black and white. But it is most notable in that it's not a photograph at all. It is a Vistapro rendering created strictly from a numerical database (not scanned images) provided by the U.S. Geological Survey. The user could have chosen, with equal ease, to set up their camera on the highest peak looking in any direction, or view with equal accuracy the back of the mountains shown here. Still another possibility would be to "fly" over the range and shoot a bird's eye view of the scenery. More or less forest could have been provided and rivers and waterfalls added.

Vistapro is priced at \$129 and requires 540KB of free memory and at least 3 MB of hard drive space with VGA or SuperVGA graphics. The company also

produces versions for Amiga computer and another program titled Distant Suns for the PC and Amiga. The Distant Suns program is a full-featured desktop planetarium incorporating high-resolution space photography attached to objects displayed in the virtual "sky". The display can be set for any time from 4173 B.C. to 10,000 A.D. Detailed information on planets - including spacecraft and observatory photos is obtained by clicking on the planet. Virtual Reality Laboratories, Inc., 2341 Granador Court, San Luis Obispo, CA 93401; (805)545-8515.

We are actually STILL hearing voices from the very highest offices in corporate telephone land bleating pitifully that "if there WERE a National Data Network, what would anyone DO with it." It seems as if it were only 100 million PCs or so ago I heard precisely the same thing about desktop computers. I don't know gents.... I guess YOU could write a letter on it if you want to....or maybe keep your checkbook on it.... as for me, "I'M" going to dance across the rings of Saturn.

BOARDWATCH MAGAZINE

Announces the Boardwatch 100 Reader's Choice Bulletin Board Contest

WIN A FREE U.S. ROBOTICS HIGH SPEED MODEM

Boardwatch Magazine is sponsoring a contest to find the 100 most popular bulletin board systems in North America - and the ONE BBS most popular among callers. The contest will run from January 1, 1992 through July 1, 1992. Winners will be announced at the Online Networking Exposition and BBS Convention (ONE BBSCON) held at the Stouffer Concourse Hotel in Denver Colorado, August 13-16, 1992. The Boardwatch 100 list will be published in subsequent issues of Boardwatch Magazine and distributed in electronic form world-wide.

PRIZES FOR VOTERS

All valid ballots submitted by voters will be entered in a random sweepstakes drawing. As of the opening date of this contest, prizes include two U.S. Robotics Courier V.32bis modems - and more are on the way. Two valid ballots will be selected from all entries and each will receive a free USR modem - the high speed modem used by more BBS operators than any other. Each voter can vote once, for a single bulletin board system. Each ballot must be fully completed, and we will verify ballots as necessary.

HOW TO VOTE

1. Complete this ballot and mail or fax to:

BOARDWATCH MAGAZINE
READERS CHOICE BBS CONTEST
7586 West Jewell Ave., Suite 200
Lakewood, CO 80232
Fax (303) 986-8754

2. Or, dial the Boardwatch BBS at (303) 973-4222 and complete the online ballot provided on the main menu. Balloting closes at Midnight, July 1, 1992.
NOTE: Boardwatch Magazine BBS is NOT eligible to win.

We held a very rough form of this contest several years ago. It generated less than 1,000 votes to select the top 100 bulletin boards. That means they averaged just 10 votes per board. Your vote can have a tremendous impact on the outcome of this contest!

PRIZES FOR BULLETIN BOARD OPERATORS

1ST PRIZE

Air fare, hotel accommodations and registration at ONE BBSCON for two is awarded to the system receiving the most votes. Additionally, the system will be featured on the cover of Boardwatch Magazine with an accompanying feature length story about their system and a free full-page black and white advertisement in Boardwatch Magazine for a period of six months. Boardwatch Readers Choice Top Rated BBS plaque to be awarded at a special award ceremony at ONE BBSCON.

TOP TEN

The ten most popular bulletin boards selected by the voters will each receive an award plaque, a feature story on their system in Boardwatch Magazine, a special top ten BBS listing in the magazine, and a quarter-page black and white advertisement in three successive issues. Additionally, they will be listed in the Boardwatch 100 BBS list.

TOP ONE HUNDRED

The 100 bulletin boards receiving the most votes will each be listed in the Boardwatch 100 readers choice BBS list. This list will be published in Boardwatch Magazine and freely distributed electronically on thousands of bulletin boards world-wide.

The Boardwatch 100 Reader's Choice Bulletin Board Contest

TITLE OF BBS YOU NOMINATE AS THE BEST IN NORTH AMERICA: _____

PRIMARY BBS ACCESS TELEPHONE NUMBER: _____

WHY IS THIS THE BEST BBS IN NORTH AMERICA?

VOTER NAME: _____ VOICE TELEPHONE NUMBER: _____

STREET ADDRESS: _____

CITY: _____ STATE/PROVINCE: _____ ZIP OR POSTAL CODE: _____ COUNTRY: _____

COMMUNICATIONS SOFTWARE YOU USE: _____

MODEM MANUFACTURER AND MODEL: _____

HIGHEST MODEM SPEED YOUR MODEM SUPPORTS? 1200 bps 2400 bps 9600 bps 14,400 bps

AGE: _____ PROFESSION: _____

SIGNATURE: _____ DATE: _____

BOARDWATCH 100 READER'S CHOICE BBS CONTEST PROGRESS REPORT

by David Hakala

It's been less than 30 days since the ballot box opened on the **Boardwatch 100 Reader's Choice BBS Contest** and already **809** modem maniacs have cast their votes for **228** different BBS. The leader as of this writing has a mere **67** votes. A two-line BBS run by a high school student has as many votes as giant 250-line EXEC-PC. The ballot box is open until **July 1**. Sysops: start your PR engines!

We asked voters to tell us a bit about themselves and why they voted as they did. Their responses contained a few surprises and many delights.

BBSING NOT KIDS'S STUFF

The average age for **809** respondents was **34**. The youngest voter so far is just **12**, and lists his profession as "piano teacher; students under 12." We have a tie for the oldest BBSer, age **72**; both are retired. Here's a breakdown of respondents' ages:

AGE	VOTERS	% TOTAL
under 18	67	8.36%
18 to 21	45	5.62%
22 to 30	198	24.72%
31 to 40	261	32.58%
41 to 50	162	20.22%
51 to 60	48	5.99%
61 to 70	17	2.12%
71 plus	3	0.38%

MORE WOMEN THAN MANY THOUGHT

Popular estimates put the distaff online population at around **5%** of all BBSers. We've long suspected that many women sojourn in BBSland under male aliases to avoid being pestered or patronized by macho juveniles. We were able to positively identify **87** female voters (**10.75%**); there are probably just a handful more among the ambiguous names and initials recorded.

VOTERS' OCCUPATIONS

It will be some time before we devise a useful scheme for classifying voters by profession (see the 12-year-old's example above), but a careful perusal of all ballots confirms the view we have long promulgated: BBSing is definitely a populist, grassroots phenomenon. A total of **144** voters (18%) are employed in computer/telecom technical jobs. The rest do almost anything. Some of the more intriguing professions include:

Actor
 Actuary
 Auto Security Co. Owner
 Boiler Inspector/Composer
 Convenience Store Cashier
 Disney World EPCOT Center Technician
 Electrician
 Grain Handler
 Hotel Night Auditor
 Intelligence Specialist
 Introspection Therapist
 Janitor
 Job Corps Volunteer
 Machinist
 Meat Cutter
 Millwright
 Molecular Biologist
 Pest Controller
 Pipe Fitter
 Pizza Delivery Driver
 Public Radio Programmer
 Rental Technician
 Teamster
 Tool Room Attendant
 Warehouse Worker

Nine voters are unemployed and not students (1.11%), while **20** are retired (2.47%). Two voters indicated they are disabled.

WHAT DO CALLERS LIKE ABOUT THEIR FAVORITE BBS

On the ballot - we asked voters to tell us what makes their nominees "excellent" - an intentionally ambiguous criterion. The answers ranged from a blank space to "see attached pages." Our scan of comments for several clusters of key words yielded the following data:

KEY FACTORS/OCCURRENCES

Download, Shareware, Files	273
Friendly, Helpful, Sysop	252
Mail, Messages, Echo	180
Games, Doors	107

Data, Information	68
Live, Chat	32
GIF, Image, Picture	11
Adult, Dating, Match, X-rated	8

Apparently, dirty pictures, sex chat, and online pornography are not as popular as some had thought. We even had three voters who chose their favorite BBS because it has NO adult material.

Fresh shareware remains the biggest drawing card online. Fortunately, the stuff is out there for the taking. We know BBSing has come of age when we see ads in Computer Shopper offering shareware by the Gigabyte.

Voters placed great emphasis on the currency of shareware libraries. We rather suspect they really mean, "I want to see something when I look for 'new' files since my last log-on." An empty search for recent uploads indicates a static, dull BBS. The same is true for mail-oriented boards. Callers never actually read all 3,588 new messages, but they want to know "something new" is there if they want it.

Aspiring infopreneurs should note the importance of being available, friendly and helpful to callers, especially novices. You may not have 25 Gigabytes of shareware, and echomail may be an unsolved mystery. But you have one thing going for you that callers want and megasystems don't provide: your own personal attention to callers. Give them yourself, and the rest will follow.

Next month we'll take a look at voters' modems and communication software. Keep those ballots coming!

CLARIFICATIONS FOR VOTERS & NOMINEES

Inevitably, the announcement of a contest creates questions about its purpose, scope, and rules. Here are a few we've encountered already.

"Can I (nominee) collect paper ballots and mail them to Boardwatch in batches?" No. System operators can do whatever they like to deliver voting materials, bribes, exhortations, pleadings, pre-addressed envelopes or whatever they like TO the voters. Once the voter completes a ballot, THEY should forward it to Boardwatch. We do not want ballots passing back through

Rave Reviews

WILDCAT! is making news throughout the trade press. Here is just a sample of what the editors are saying:

"We can say unequivocally that WILDCAT! 3.0 is the Cadillac of BBS products. It is a well thought out, cleanly implemented, and thoroughly tested software product..."

LAN TIMES

"For many reasons, WILDCAT! 3.0 is an ideal corporate BBS. WILDCAT! has all of the features that you are likely to need, and you may implement them or not."

LAN

LAN TIMES RATING		
Wildcat!		9.0 [LAN TIMES]
Criterion	Weighting	Score
Features	150	Excellent
Security	100	Excellent
Interoperability	100	Good
Performance	150	Excellent
Manageability	100	Excellent
Installation and Use	100	Excellent
Documentation and Support	100	Good
Error Handling	100	Good
Overall Score		Excellent

"THIS is the future of bulletin board software!...WILDCAT 3.0 shows true innovation and excellence-with a great deal of vision. Well done!"



"The BBS architecture and the way people use the systems have not changed much...At least until Mustang Software introduced distributed-processing architecture into its WILCAT! software."



And about the PRO! Series:

"WILDCAT! PRO! Series Version 3...goes beyond anything available in BBS software."

BOARDWATCH

Review Wildcat! for yourself and get Q-Modem v.5 FREE!

Complete and mail this coupon by March 31, 1992 and receive Q-Modem v.5 with Off-Line Xpress (OLX), the QWK mail reader (a \$99.00 value) FREE!

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Product:

- Wildcat! Single \$129.00 Wildcat! 1-10 line \$249.00
 Wildcat! 1-250 line \$499.00 Q-Modem **FREE!**
(California residents, please add appropriate sales tax.)

Payment Method

VISA M/C AMEX Check

Credit Card Number _____ Exp. _____

Signature _____



Wildcat!

Shipping Method:

- UPS Standard - \$6.00 UPS Blue - \$8.00
 UPS Red \$17.00 Overseas -\$23.00

Total enclosed: _____

(Did you include shipping, handling and applicable sales tax?)

This offer is good for orders placed directly with Mustang Software, Inc., and must be postmarked by March 31, 1992. Coupon MUST accompany order. Phone orders are not eligible. Photo copies of coupon will not be honored.

Please send to:

Mustang Software, Inc.
P. O. Box 2264
Bakersfield, CA 93303
(805) 395-0223

the hands of nominated bulletin boards - however clean those hands may be. Voters must forward their ballots to Boardwatch themselves. The sysop can't touch it after it's filled out.

"Can I (nominee) set up a electronic voting questionnaire on my BBS, collect the ballots, and upload to Boardwatch?" No. We prefer mailed or faxed ballots with a signature. The only concession to electronic balloting is an online ballot form on Boardwatch Online Information Service at (303)973-4222 - largely a concession to blind/disabled callers.

"Can I vote for Prodigy, CompuServe, GEnie, or another commercial online service?" No - and yes. Specific bulletin boards, forums, roundtables, and other "tenants" on commercial online service carriers are considered BBS for the purposes of this contest and ARE eligible. Such votes must specify the carrier and the specific tenant, i. e., "CompuServe's IBM-PC Forum." Votes for the parent carrier alone will be disqualified. Voting for Prodigy as the "best Bulletin Board" is like voting for "a Democrat" for President.

"Will votes from different persons sharing an address be disqualified?" No, but we do scrutinize handwriting and signatures on such ballots, and reserve the right to require positive identification.

"Do I have to give my address, phone number, age, etc.?" Yes; ballots missing any requested data are simply discarded. Your vote will not count and you will not be eligible to win any prize.

"Will Boardwatch sell or rent voters' names to sysops or others?" No. We have been approached with offers to buy our subscriber mailing list many times; this is one temptation we are expert at resisting.

THE AMCOEX INDEX OF USED COMPUTER PRICES

by John Hastings

As expected, Northgate announced price cuts as high as 26 per cent recently in response to large reductions from IBM and Compaq. Other clone

The AmCoEx Index of Used Computer Prices

The following prices are for mid-January 1992.

Machine	Bid	Ask	Close	Chng
IBM XT 089.....	200	450	275	...
IBM AT 339	350	700	625	+25
IBM PS/2 Model 30/286 20M	500	950	725	+25
IBM PS/2 Model 50 20M	700	1050	900	...
IBM PS/2 Model 70 60M	1600	2200	1850	-50
Clone XT 20 Mg.....	200	400	300	+25
Clone AT 20 Mg	400	700	600	...
Clone Notebook 386SX, 40 MB	1050	1900	1600	-50
Clone 386/SX 40M, VGA.....	800	1350	900	+50
Clone 386/25 40M, VGA	800	1400	1050	+100
Clone 386/33 40M, VGA	1100	1550	1175	...
Clone 486/25 80M, VGA	1400	1950	1700	-100
Compaq SLT/286 20M	700	1200	950	-400
Compaq LTE 286 40M	700	1000	900	-300
Compaq Portable II 20M	400	700	650	...
Compaq Portable III 40M	700	1150	875	-25
Compaq Deskpro 286 40M	500	800	600	...
Compaq Deskpro 386/20e 100M	1800	2500	1950	-50
Macintosh Plus	300	600	575	...
Macintosh SE 20M	700	1100	1000	+25
Macintosh SE/30 40M	1600	1900	1900	+25
Macintosh II 40M	1900	2550	2200	-150
Macintosh IIcx 80M	2700	3300	3025	-25
LaserWriter Plus	900	1500	1300	...
LaserWriter IIINT	1500	2150	1850	-50
Toshiba 1200HB	800	1150	1000	...
Toshiba 1600	1100	1500	1300	-50
Toshiba T-3100SX	1700	2300	1900	-200
HP LaserJet II.....	700	1050	1000	-25
HP LaserJet +.....	425	600	500	...

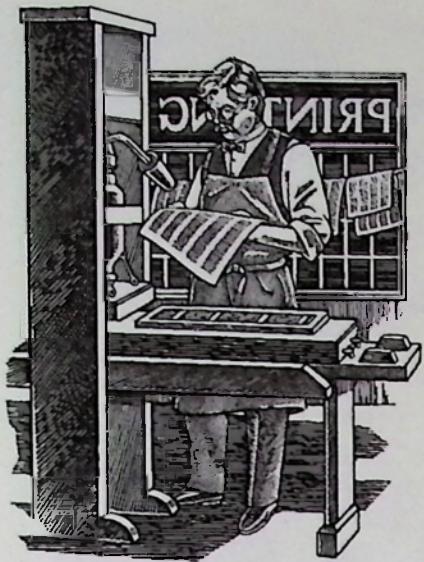
manufactures as sure to follow soon. Razor thin margins are certain to cause a large shakeout within the industry.

Sony has introduced a pen-based palm-top computer which many believe is the predecessor to the Macintosh palm-top due next year. The computer weighs 1 pound and measures 2.5S by 4.1S by 1S.

Several manufacturers are working on pen-based input devices for standard computers, rather than the complete stand alone systems now available. These devices would allow desktop computers to recognize handwriting as

well as mouse-type manipulations. They could be used in conjunction with a standard keyboard and monitor.

Earlier this year, Advanced Micro Devices predicted it would capture 10 per cent of the 386 chip market from Intel before the end of 1991. It now appears its share of the market is closer to 20 per cent. It is now boldly predicting it will own over 50 per cent of this market before the end of 1992. This market share could only be achieved through lower chip prices indicating lower system prices in the new and used markets next year.



FREEDOM without THE PRESS

You operate the very best electronic bulletin board system you possibly can. And you try to provide your callers with the best entertainment, news, software, and technical information you can find. We're here to help with online information products you can use for your callers benefit. And that means increased paid subscriptions to your system.

USA TODAY Decisionline

Published by Gannett New Media each business day, USA TODAY Decisionline provides a remarkably concise, readable, online morning summary of the events of the day for your callers. Averaging 60 KB each morning in .ZIP, .ARJ, .ARC, or .LZH archived format, USA Today Decisionlines provides news on eighteen topical categories.

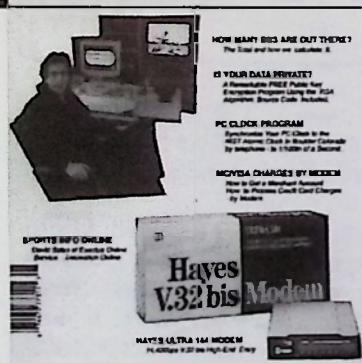
You can place the news gleaned from Gannett publication's journalists at the keyboard of your callers each AM. Available by 5:00 AM Mountain Time each Business day, USATODAY can be downloaded from our multiline information service or file requested from our multiline mail system using your U.S. Robotics HST 9600 bps or V.32 modem at 9600 bps or higher - normally less than a one minute connection. And maintenance of this product is so simple to automate, you don't even need to get out of bed. Best of all, USA TODAY needs no introduction or explanation. It has the name recognition to instantly draw new callers to your system. Put THE most popular daily national newspaper in the world on your electronic bulletin board for as little as \$25 per month.

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BOARDWATCH

MAGAZINE

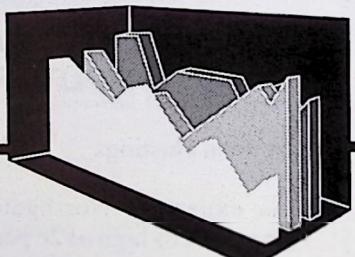


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Advanced Micro Devices is expected to announce their version of the 80486 processor chip in January. Samples of the chip should be shipping by the second quarter of 1992. Compaq may be one of the first companies to announce the use of this chip. A strong alliance may form between these two companies due to two recent events. First, Compaq is committed to producing computers at a lower cost basis to regain market share. Shopping the marketplace for the lowest priced components will be the main method of reducing costs. The second factor involves the recent announcement of an alliance between IBM and Intel, AMD's competitor. Compaq fears IBM may beat them to the market with new products due to this alliance. The alliance guarantees IBM a four-month head start over any other purchaser of the chips.

Another chip manufacturer, Chips and Technologies, has announced it will begin shipping its version of the 386 chip soon. Due to this competition as well as additional competition from Cyrix expected next year, Intel and

AMD are expected to announce significant price reductions in January for their 386 chips. Lower prices for most new and used 386 systems should result.

Indications are that IBM may begin selling and servicing non-IBM Asian clones in the European market if IBM cannot lower the prices of its low-end systems by 20 per cent. Many times IBM will initiate a new procedure in Europe before allowing the policy to be effective in the domestic market. If this policy were implemented here, that would virtually relegate all PC's to true commodity status.

Due to lackluster interest in its LAN Manager networking software, Microsoft will include a peer-to-peer network feature in the next release of its Windows operating system. This will be followed in the future by another version of Windows described as a server. In reality, it will be the integration of Windows and LAN Manager with a new name. Microsoft has been uncharacteristically unsuccessful in competing with Novell's NetWare networking

software. Apparently its new strategy will embed its network into Windows and appear to be a natural progression.

Digital Research, Inc. has indicated it may incorporate IBMs OS/2 into its DR-DOS operating system soon. Digital Research is owned by Novell. This integration of OS/2, which will run Windows software, with Novell's dominate networking software could pose a serious threat to future versions of Microsoft's Windows. This alliance may explain why five vice presidents of Microsoft sold over \$9 million of stock last month.

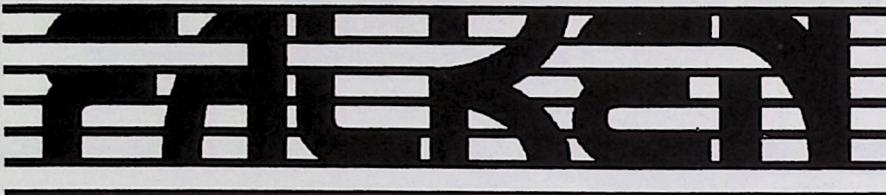
Michael Hallman, president of Microsoft recently sold 93 per cent of his Microsoft stock valued at almost \$16 million. Rumors soon circulated that he might be leaving the company. Microsoft has stated there is no basis to those rumors. The other school of thought centers around his concern for the outcome of the Apple/ Microsoft lawsuit and the ramifications it could have for the future of Windows.

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Microsoft's latest operating system. The lawsuit may be settled as soon as next February.

Some printer manufacturers are promising Postscript laser printers next year for less than \$1000. This may force the prices of all laser printers lower by mid-1992.

CD-ROM's, compact disks which store over 600 megabytes of data, will have a major impact on the computer industry this year. In addition to usage in standard desktop systems, several vendors are planning devices utilizing CD-ROM storage connected through a standard television set. These systems will contain a basic computer system, however, their primary usage will be data retrieval. While there are large numbers of computers in the home, the idea of home computing has never really come to fruition. However, having ready access to large quantities of data available through this inexpensive medium should appeal to many. These entry level systems will use a pointing device and a graphical user interface in lieu of a keyboard.

Tandy Corp. may be the first to market with this type of system. They are expected to announce their product this month with delivery by this summer. This device will use Windows as its standard interface. Also, Apple and Sony are rumored to have a similar system in preparation. Their system will incorporate the Macintosh interface. The initial disks will offer encyclopedias, almanacs, and back issues of publications. In addition to fast access by a key word search, these systems will incorporate animation and sound. The systems will start at \$500 with the cheaper disks selling for \$20.

[John Hastings is the president of the American Computer Exchange Corporation. The American Computer Exchange matches buyers and sellers of used microcomputer equipment. For more information contact the American Computer Exchange Corporation at (800) 786-0717]

LEGALLY ONLINE

LINKS, PORTS AND COMPETITION - THE BEGINNING OF THE END OF LOCAL LOOP MONOPOLY

by Lance Rose

No, not a flask of wine on the back nine. But some of us with a taste for inebriated golf may have a little more time and money available for such pursuits if the New York State Public Service Commission ("PSC") stays its course. The PSC recently ordered the local bell telephone companies to give up a significant part of their monopoly over telephone service in New York.

PSC Opinion No.91-24 starts out with a very attractive promise: "In this Opinion, we take the next step in the transition to a telecommunications industry in which competition, rather than monopoly power, is the dominant force." The opinion is concerned with enabling "PBX" services to compete better with "Centrex" services. Centrex services are a set of extended telephone services offered by the local exchange companies ("LEC's", which you can also think of as the existing local telephone monopoly companies - acronyms are necessary in this terminological thicket) to subscriber businesses and organizations. Subscriber organizations receive in-house intercom capabilities, internal wiring, and telephone equipment, in addition to normal telephone services such as access to the public telephone network, a dial tone and an address on the network (ie., a phone number). The Centrex functions are routed and controlled from the LEC's central offices.

"PBX" stands for private branch exchange. PBX systems are provided by companies other than the LEC's. These phone systems provide the same types of in-house intercom, wiring, and equipment functions as Centrex systems, but they do not have direct access to the public telephone network. Up to now, companies using PBX's had to buy phone lines from the LEC's to gain access to the network. The LEC's typically

charged companies using PBX's not just for the fact of receiving access to the local phone network, but also for the physical link to the LEC's switching facilities. These kinds of connections are especially important for organizations that operate two or more separate locations, possibly miles apart, that can only feasibly be connected through the LEC's local phone network.

This brings us back to "links" and "ports". The PSC says two fundamental things are necessary for outside access to the LEC's switching facilities. "Links" are the physical wires that bring the telephone signal from the PBX to the physical connector on the LEC's switch. A "port" (which is not physical) is a position within the LEC's switching system that can receive a dial tone and a phone number permitting participation in the public telephone network.

The PSC's latest blow against telco monopolization directs the LEC's to unbundle their link and port services. Now, outside companies can connect their own link lines (such as fiber optic lines) directly to the LEC's switching station, and pay the LEC only for the "port" service of providing a dial tone and phone number to the outside company's link. This enables outside phone companies to compete with the LEC in providing a complete Centrex-PBX type service utilizing the LEC's own local telephone network.

This unbundling still leaves the "port" side of the local phone service under monopoly control by the LEC, which implies that the LEC could try to use that control to extract monopoly profits from the outside phone companies bringing their competing links to the LEC's ports. But never fear! The PSC mandated, along with unbundling, that the LEC's provide "comparably efficient interconnection arrangements", or CEI, for the outside phone companies. This one's easy - a CEI permits outside phone companies to receive port services on a physical and cost basis equivalent to the basis on which LEC's provide port services to themselves for their own links. As at least one outside company pointed out to the PSC, a workable CEI arrangement requires close scrutiny to make sure the LEC's don't charge prices so high for their CEI ports that they actual-

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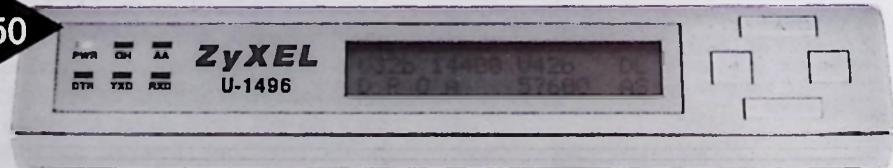
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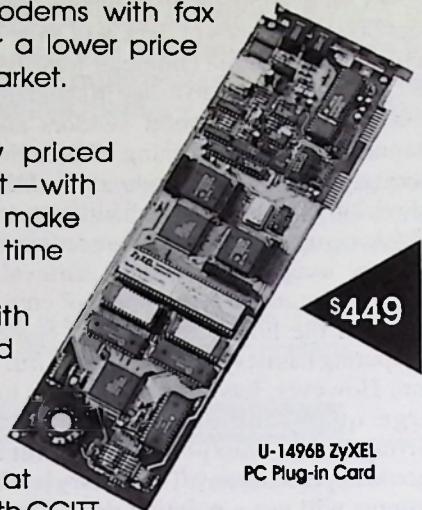
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ly cross-subsidize the LEC's link services that compete with the outside company's link services.

Believe it or not, the preceding verbiage is a translation of the PSC order into English! But the PSC should be forgiven its prolixity. It is doing good things, and (hopefully) blazing the trail for other state agencies throughout the country in opening up phone service competition on every level.

So what did the PSC say and do, in a nutshell? It freed certain companies that operate PBX's from having to pay anything to the LEC for physical linkage to the LEC local phone system, and further made the LEC's offer dial tone and phone number "port" services to outside companies at rates comparable to the LEC's own costs for such port services. This enables PBX's to compete more effectively with the LEC's own Centrex services, and hopefully will bring the prices for all such in-house services down.

In the course of its Opinion, the PSC very nicely summed up its philosophy of progressively opening up the LEC local phone service monopoly for the benefit of telephone service consumers:

"Experience in telephony has shown time and again that monopoly prospers and competition flounders unless segregable services are unbundled and offered in their elemental forms, accompanied by reasonable and fair interconnection terms. This was so when the telephone "station" or instrument charge was first unbundled from the "line" charge in the mid-1970s and when "inside wire" was unbundled from exchange access service in the early 1980s, and it remains so now. Consumers now routinely purchase and install their own telephones, or have premises wiring installed by independent vendors. Indeed, these experiences are now so commonplace that one can easily forget that barely fifteen years ago these benefits, too, were assailed by the telephone companies as illusory, impracticable and undesirable.

As long as the local telephone company's link and port rates remain "bundled" in the form of loop/trunk charges that are impossible to see, much less compete with, a competitive environment for links, generally, cannot exist. Competitive link providers need access to unbundled ports with which to interconnect their facilities in order to provide service to their customers. But local telephone companies will not file unbundled rates on their own, and delay ill serves the public interest. Accordingly, we will direct all telephone companies that provide Centrex or PBX trunk services to file tariffs unbundling existing rates, in a revenue-neutral manner, into port and link equivalents."

There is still some way to go. For one thing, there are aspects of Centrex service that are still bundled by the LEC's, such as the customers' telephone equipment and the in-house intercom services. It seems the PSC wants to eventually give outside companies a crack at competing with LEC's for that business too.

And a much bigger issue is also under consideration by the PSC - unbundling individual subscriber services. If the PSC follows the same course for individual subscribers that it has followed for organizations using PBX's, we will see the LEC monopoly progressively whittled down. How far and how fast it will go is hard to say, especially in the face of continuing phone company resistance. But it looks like New Yorkers, at least, are headed towards a future full of bewildering, complex, and ultimately empowering telecommunications choices.

[Lance Rose is an attorney practicing high-tech, computer and intellectual property law in the New York City area, and is available on the Internet at elrose@well.sf.ca.us and on CompuServe at 72230,2044. He works with shareware publishers, software authors, system operators, technology buyers, interactive media developers, on-line database services and others in the high technology area. He is currently revising the book SYSLAW, a legal guide for bulletin board system operators, due to be published early 1992. - Editor]

INTERNET

US SPRINT JOINS INTERNET GROUP

US Sprint has formally announced their rumored alliance with the Commercial Internet Exchange (CIX), a group of public data Internet providers including General Atomic's CERFnet, Performance Systems International, Inc.'s PSINet, and UUNET Technologies, Inc.'s Altemet.

The group was formed to oppose the dominance of Automated Network and Services, a company set up by IBM and MCI who many Internet users fear will treat the newly funded NREN as a welfare program for IBM to control Internetworking on a global scale.

Sprint will offer a router-based LAN interconnection service titled SPRINTLINK that will support Transmission Control Protocol/Internet Protocol (TCP/IP). The service will con-

nnect local area networks via dedicated lines, but the Cisco routers will be located at Sprint's point of presence rather than customer premises. These routers typically cost as much as \$20,000 and perform the packet routing to connect LANs.

The SPRINTLINK service will offer data rates from 9.6kbps to 1.544 Mbs and the link can be used for access to Sprint's frame relay and SprintNet X.25 networks as well as the Internet. Pricing should be set by the end of March.

THE WORLD - PUBLIC ACCESS UNIX INTERNET SYSTEM

The big question regarding Internet these days has little do with whether or not callers want it. It seems to revolve more around where they can get it. Increasingly bulletin boards and other online services large and small are providing basic Internet e-mail and in many cases Usenet Newsgroups. But for many really devoted online aficionados, a shell account allowing the ftp and telnet functions is high on the shopping list. A

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company titled Software Tool and Die in Brookline Massachusetts is offering such an account at some very reasonable prices - typically \$2 per hour with a \$5 monthly account fee and as low as \$1 per hour for heavy users. They even offer some attractive options to beat the long distance charges to Massachusetts, including access over the CompuServe packet network.

The system is titled **THE WORLD** and it runs on a Sun Microsystem Sparc Server with 3 GB of file storage and modem speeds up to 19,200 bps. To sign up for public access, dial **617-739-WRLD** and type "new". The basic rates are \$2 hourly 24 hrs/day and a \$5 monthly account fee. The **20/20 Plan** is \$20 paid in advance for 20 hours of online time during a one month period. This includes the monthly account fee and an additional **1500** blocks of disk space. After your first 20 hours, the hourly rate is \$1 per hour.

At The World's login prompt, use the login "new" to begin the account request program. You will be asked a few questions necessary to create your account. Visa or Master Card is accepted

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for billing purposes. The World will allow you to select your login name. Most people select their name, their initials, or a combination of both. Your login name will be your electronic mail address. Your initial password will be provided by the account creation software. For customers with credit cards, the account is available immediately upon completion of the request. Postal billing is also available.

The system offers a variety of services:

Electronic Mail - access to numerous networks including Internet, UUCP, BITNET, EUNET (Europe, Soviet Union), JANET, JUNET (Japan), FidoNet, BIX, CompuServe, Applelink, and MCImail. World sports all the popular unix mail programs, such as, mail, elm, mh, much, GNU's RMAIL, dmail, and mm.

USENET - the international bulletin board system called USENET. A collection of over 2600 newsgroups. More than 1,000,000 people are reachable and over 100,000 are regular subscribers.

The World carries the largest distribution of USENET topics. Among the newsreaders are rn, nn, trn, tass, and GNUS.

ClariNet - UPI, AP, and satellite news services formatted and organized into a USENET compatible hierarchy

Modems - The modems support 19.2k, 9600, 2400 and 1200 baud connections with most standard modem features. All modems support MNP/5 protocols. Recommended modem settings are 7, E, 1.

Electronic Mailing Lists - Rather than trying to carry on focused discussions in a newsgroup you can join and form mailing lists with kindred souls devoted to specialized topics.

Chatting - Two interactive discussion programs exist. One is the Internet Relay Chat (irc) and the other is Forumnet (fn). Both provide interactive, real-time access to people around the globe. IRC includes some channels for discussions in foreign languages.

UNIX Software - Many of the common utilities and programs which have become an integral part of the UNIX environment are available. Unix shells include sh, csh, ksh, bash, tcsh, zsh and rc. Also most popular unix utilities are available.

Archie - Direct access to an archie server for software index retrieval is available. Archie contains indexes for most anonymous ftp sites available on Internet.

GNU Software - The basic GNU components, like EMACS, GCC, G++, GDB, GAS, BASH, GAWK, are available. This is particularly useful for customers who are interested in software development.

Games - Most games common to the UNIX environment are available. These include hack, moria, nethack, adventure, omega, robots, and tetris.

Online Book Initiative - The purpose of the OBI is to create a publicly accessible repository for freely redistributable collections of textual information, a net-worker's library.

AlterNet Access - Users have access to AlterNet via ftp/telnet. Dedicated high speed connections are available for sites that wish to join the world wide Internet.

Internet - Due to NSFnet policy, not all Internet networks will allow ftp and telnet connections.

You can access The World via Compuserve's Packet Network by dialing any of hundreds of telephone numbers throughout the United States and Canada. The surcharge is \$5.60 hourly in addition to regular World rates.

You will not be charged Compuserve's Information Service rates only the network usage fee which will be included with your regular World charges. The "charges" program on World identifies this surcharge by placing CPN next to sessions that originate from a Compuserve Packet Network connection.

To find a CompuServe dial-in number you can either run the program **compuserve** with the area-code you are interested in: % **CompuServe 617** or dial CompuServe's own information service (with your modem) at **800-848-4480**. Hit **RETURN** and you'll see the CPN prompt, **Host Name:** Enter the command **phones** to use their on-line lookup number.

To login to THE WORLD, dial your local CompuServe phone number, when the modem answers hit **RETURN** and you will be prompted with **Host Name:** Respond with **world,domestic**" followed by **RETURN**. It will then ask for a password, use **notobvious** (it won't echo) and press **RETURN**. You will then see The World's **login:** prompt. Login as usual.

The World is managed by a staff of professionals, all of which have UNIX and international networking experience. Their full time job is the support of The World. Software Tool & Die 1330 Beacon Street Brookline, MA 02146; (617)739-0202 voice; 617-739-9753 BBS.

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Dartmouth College has been most progressive in putting the classics online. Their DANTE BBS has been up for a number of years. Now they have the full text of 33 Shakespeare plays and all of his sonnets online through the Internet.

The Dartmouth College Library Online System allows you to search and view the full text of Arthur Bullen's Stratford Town Edition of the bard's work online.

If you have an Internet shell account, you can access the library using the **telnet** program by entering **TELNET LIB.DARTMOUTH.EDU**. Once you are on the system, enter **SELECTFILE SHAKESPEARE PLAYS** or **SELECT FILE SHAKESPEARE SONNETS** to access whichever database you prefer. A reasonably sophisticated system allows you to browse, search, or display text from any play, or a particular act of a play that you desire. **BYE, END, LOGOFF, or EXIT** will get you back into the lobby. Contact

Greg Finnegan, 104 Baker Library, Dartmouth College, Hanover, NH 03755; (603)646-2560 voice; greg.finnegan@dartmouth.edu.

Those without Unix shell accounts might be interested in the SHAKSPER mailing list operating out of the University of Toronto. This mailing list consists of about 200 members in twelve nations - all devoted to study of the bard's works. One of the magic things about mailing lists is that you can join from anywhere that can accept and transmit Internet e-mail. SHAKSPER has participants from CompuServe for example.

Articles from print media such as *Shakespeare Bulletin*, *Shakespeare Newsletter*, and *Bulletin of the Shakespeare Association of America* have appeared in this mailing list and members include editors of a number of traditional scholarly journals. One interesting element about this mailing list is that you must submit a brief autobiography describing your interest in Shakespeare, professional interests, publications, etc. in order to join the list. These are not reviewed - anyone can

join the list and they generally don't exclude anyone. The biographies simply make the group a bit more congenial in that rather than a list of a couple of hundred faceless names, you know a little bit about everyone on it. To contact the list, send e-mail to **SHAKSPER-REQUEST@UTORONTO**

MORE ON CONNECTING YOUR BBS TO THE INTERNET

Last issue we described some of the basic tools used to connect a BBS to the Internet for e-mail using the Unix-to-Unix Copy Program (UUCP) connection. Most of the utilities described converted the **RFC-822** style e-mail messages used in the Internet to Fido-style messages that the existing FidoNet utilities could use to import/export messages from the BBS message base.

This does accomplish an Internet e-mail connection - but barely. In most cases, callers are faced with a confusing array of instructions to actually use the service. Using **UFGATE** or **FREDGATE** for example, callers are required to address a Fidonet message to a dummy gateway net/node, and then put the Internet address in a special **TO:** line as the first line of the message.

This has a couple of unfortunate consequences. But the biggest one is that they cannot simply reply to an Internet message using the normal BBS reply function. They must laboriously enter the Internet address by hand all over again to reply to a message. If this were standard practice on Internet systems, the Internet would probably consist of three government IBM 360s and a 67 year old system administrator in a warehouse in New Jersey. Domain addresses have indeed simplified e-mail addressing, but most people find it bearable in that once you are in correspondence with someone, you don't need to use their address much. Simply pull up an old message you've received from them and reply to it using the **R** command on most mail systems. The system copies the address into the message for you.

Most bulletin boards use a similar function. So we decided to take a look at just how difficult it would be to write a

utility giving Boardwatch subscribers the ability to use Internet e-mail in approximately the same fashion they use e-mail on the BBS.

What we found was that it is just not that hard to do. We wrote two utility programs in assembly language using Borland's Turbo Assembler. We called the utility **Personal Internet Mail Processor** for TBBS (**PIMP**). One utility, **PIMPSCAN**, scans the TBBS message base for outbound messages while a second, **PIMPTOSS**, receives incoming messages and inserts them into the TBBS message base. Using an hour here and an hour there available between the other tasks of writing a magazine, the two programs were operational in ten days.

To actually do the UUCP transfer of messages, we used the **UUCICO** (Unix-to-Unix-Copy-In-Copy-Out) program from Christopher Ambler's **FSUUCP** program. We reviewed this \$35 shareware program in the November 1991 issue of **Boardwatch** and have been using it both as our office LAN e-mail service and to connect to the Internet. This is a DOS program to emulate Unix mail programs and it does a good job of it.

FSUUCP includes editors and utilities to process inbound and outbound e-mail. But we wanted our **PIMP** utility to actually produce and use the files handled by **UUCICO**.

UUCICO makes the call to our UUCP Host, Colorado SuperNet, and sends any files waiting in an output subdirectory to the Host. **UUCICO** then receives any inbound files and places them in an IN-BOUND directory.

Incoming UUCP files include a data file, denoted by a **.D0n** extension, and an Execute file, denoted by a **.X0n** extension. Ostensibly, the execute file instructs the Unix-like utilities in **FSUUCP** with what to do with the data file.

PIMPTOSS gets the **TO:** address from the execute file. In the case of Internet mailing lists, it often happens that the **TO:** address in the actual message (the **.D0n** file) is often the name of the mail-

ing list. The **.X0n** file contains an **RMAIL** command indicating the actual person the message should be routed to.

Once the **TO** address is determined, **PIMPTOSS** examines the message file itself to scan out the creation date and time, subject, and who the message was from. The **FROM:** address is actually quite crucial. This address will be placed in the TBBS message base so that replies can be performed with the **R** option in the BBS. If you don't capture the **FROM** address correctly, replies will go off into the ether. **FROM** addresses almost always come in one of three formats:

jrickard@csn.org
jrickard@csn.org (Jack Rickard)
Jack Rickard <jrickard@csn.org>

The parser simply reads the address from left to right. If it encounters a series of spaces and a line feed, the address was of the first type and we have it. If it encounters a left parenthesis as in type 2, it's done - accepting those characters to the left of the parenthesis. If it encounters a left angle bracket, it starts over at that point and scans until the right angle bracket.

PIMPTOSS then creates a **128** byte entry for the message index. On TBBS, this is the **MSGHDR.BBS** file. This record includes the **TO**, **FROM**, **DATE**, **SUBJECT** fields along with a pointer to the actual message file, and a couple of indicators that tell TBBS what message board it belongs on. The actual message text is added to the **MSG.BBS** file intact.

PIMPSCAN, conversely, scans the TBBS message base and pulls out all messages that are contained on a single dedicated message board that haven't already been sent. From the **MSGHDR.BBS** file, it gets the **TO**, **FROM**, **DATE**, and **SUBJECT** data and creates three files **UUCICO** will need to send the messages. The **COMMAND** file carries a file extension of **.C0n** and tells **UUCICO** what files to send to the host. The **EXECUTE** file, with a file extension of **.X0n** is passed to the host which uses it to route mail much as **PIMPTOSS** did. And the **DATA** file, **.D0n**, actually contains the message. When **UUCICO** finds these files in its outbound directory, it will send them.

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The result is that personal Internet e-mail on Boardwatch works about like any other message board on TBBS, with the small exception that you can send e-mail to Amsterdam as easily as to someone else on the local board. Board subscribers automatically receive an Internet e-mail box address as **FIRST.LAST@BOARDWATCH.COM** and can both send and receive personal Internet e-mail.

The point of all this is that a functional interface between a BBS and some of the basic Internet services is just not that hard to do. PIMPTOSS is a 54KB .COM program, 50KB of which is a big message buffer. PIMPSCAN is 14KB and 10KB of that is message buffer. The entire program was done in assembly language in a little over a week. And the TBBS message base is probably one of the most complex message databases in the BBS world.

The Internet essentially offers a common e-mail bus for the entire world. But the Unix command line offered by most shell accounts is by all measures a "savage" environment for the uninitiated. Electronic bulletin boards

can make global e-mail usable by ordinary competent online individuals who simply have no yen for a career change to learn Unix. We would encourage the BBS software development community to take the learning curve burden OFF the callers and put it on the backs of microprocessors everywhere - where it belongs. The format of Internet e-mail messages is documented in RFC822 - widely available on the net. File **RFC0822.TXT-1** by **ftp** from **NIS.NSF.NET**.

VINTON CERF LAUNCHES INTERNET SOCIETY

The national network structure now referred to as Internet, started as a technology development project of the Advanced Research Projects Administration - ARPANET. The Defense Department funded and controlled ARPANET and they appointed a group of technical experts to guide the growth of the network. This group eventually became the Internet Activities Board (IAB). This group controlled the publication of Request For Comments (RFCs) and other documents that embody the technical

standards used by ARPANET systems to handle electronic mail, establish data protocols such as TCP/IP, etc. In short, they were the standards body for ARPANET. The IAB also spawned sub committees, known generally as task forces, to address more specific problems. The most prominent of these is the Internet Engineering Task Force (IETF).

ARPANET died. The National Science Foundation Network, NSFNet, became the backbone of a much larger, but much more amorphous network of networks we refer to now as the Internet. Internet really has no central organization. Different jobs are handled by different groups and it's all held together by a kind of tacit consensus. With the death of ARPANET, the IAB no longer reported to the Department of Defense. In fact, they don't really report to anybody.

Dr. Vinton Cerf has been a key figure in the development and maturation of the Internet. He's served as chair of the IAB for a number of years. But he's stepping down as head of IAB to launch a new professional society titled - The Internet Society.

The Internet Society is designed as a truly international professional society run by its members. Its purpose is to provide a focus for the evolution of Internet technology as a global research communications infrastructure, and promote the use of the Internet for research, scholarly communication, and collaboration. The society emerged from discussions among the Corporation for National Research Initiatives, Educom, and a European academic network organization titled RARE. CNRI is a non-profit corporation that conducts scientific and educational research and will administer the Internet Society. The Internet Society will sponsor the activities of the IAB, and the IETF and publish a regular newsletter and journal. The society won't actually have anything to do with running the Internet, but rather provide support to those running and using the network.

The Internet Society will hold its first annual meeting June 15-18th in Kobe Japan - titled INET. Membership in the Internet Society will be made up of individual voting members, and non-voting institutional members. Membership fees to the Internet Society are \$70 annually for individuals and \$10,000 annually for corporations. The group has so far received more than 900 individual memberships as well as corporate sponsorship from Apple Computer, IBM, and 3Comm Corp.

For more information on the Internet Society, send e-mail to **ISOC@NRI.RESTON.VA.US** or contact Dr. Vinton G. Cerf, Internet Society, 1895 Preston White Drive, Suite 100, Reston, VA 22091; (703)620-8990 voice; (703)620-0913 fax.

SEARCHING INTERNET ADDRESSES BY E-MAIL

We DID mention it in the December issue, but we've still received a number of requests for the same information. Note that there IS NO central directory allowing you to positively locate an individual's Internet mailing address. But there IS an experiment in e-mail directories that lists many thousands of users. The service is titled the KNOWBOT INFORMATION SERVICES and it's operated by the Corporation for Na-

tional Research Initiatives in Reston, Virginia. You may query this database by e-mail and it will send you a reply to your e-mail box - wherever that might be.

- Address an e-mail message to **NETADDRESS@NRI.RESTON.VA.US**
- Enter any subject you like in the SUBJECT field.
- On the first line of the message, enter the name, or part of a name, of the person you would like to search for.
- You may enter additional names for search, one per line and flush left.
- Send the message.

The service will e-mail you a reply with the search results.

INTERNET STATISTICS - A TERABYTE HERE - A TERABYTE THERE

Merit is the entity nominally charged with maintaining the National Science Foundation Network (NSFNet) backbone. Most of the technical services are actually provided by a contractor, ANS. But Merit does operate an information system to disseminate information about the Internet.

The machine at the heart of this is an IBM 4381 mainframe running under VM. The system is titled **Merit/NSFNET Information Services** and accessible as **NIS.NSF.NET** (35.1.1.48). The system sports a wealth of informational files.

Among them is the Internet traffic report. The obvious allusion to metropolitan traffic reports delivered on AM radio by helicopter really isn't all that far off. These Internet traffic reports list statistical data about how much data is moving over the network backbone.

We thought it interesting to compare the **NSF90-12.BTRAFFIC** file with **NSF91-12.BTRAFFIC**. These two files list the number of networks connected to the backbone, and how many bytes of data pass each network for the month. The first file lists data for December of 1990 while the second

covers December 1991. The files are actually fairly enormous because they further break out data by each individual network attached to the backbone. But we can find the summary information of interest in the first few screens of data. The numbers tell the story:

December 1990
Number of Networks: 2,271
Bytes traffic: 573,735,704,980

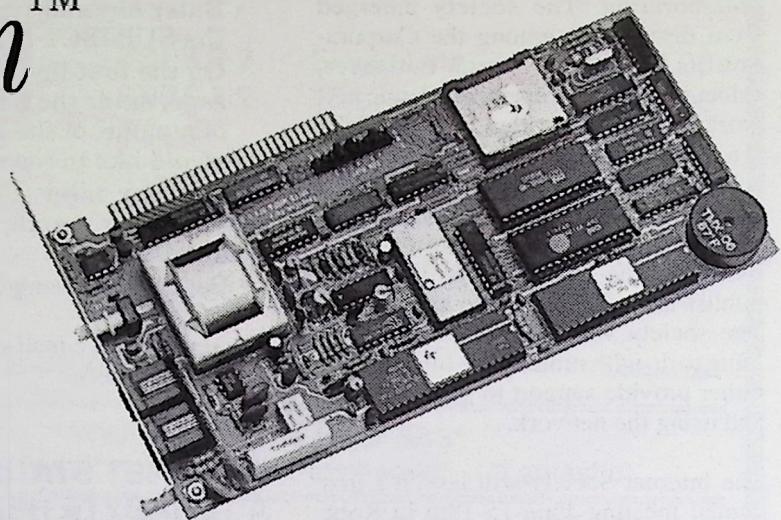
December 1991
Number of networks: 3,295
Bytes traffic: 1,359,861,802,500

A couple of things jump right out here. The amount of data passing through the NSFNet backbone, and this completely excludes traffic **within** regional networks - that is traffic that doesn't need to traverse the backbone to reach its destination, was nearly **573 GIGABYTES** of data in the single month of December 1991. Merry Christmas and a bunch of it. By December of 1991, that figure had increased **137%** to **1.359 TERABYTES**. This is **45 GIGABYTES** of Merry Christmas data every day. The size of these numbers make them virtually meaningless. If you consider an e-mail message of 1000 characters average, we're talking about **45 million** e-mail messages per day. Quite a bit of this traffic is not actually mail, but it gives you some idea of the level of activity.

The other notable thing about this is the number of networks - a **45%** increase in a year. Note that these are networks attached to the NSFNet backbone, and each may also feed further networks below them endlessly. The dramatic thing about the evolution of the Internet is not what it is, how it does it, or even whether or not any of it makes a lick of sense. The number of local area networks, wide-area networks, packet networks, office LANs, companies, governmental departments, schools, and other assorted keyboard-driven detritus of the computing world making the connection is immense and growing at a rate completely beyond any other entity on the planet. At some point, probably already accomplished last year, this gang-rush to connect will reach a critical mass. Then we'll start doing stories on who's NOT connected to the Internet. While it may all be a bit techie in this first quarter of 1992, within

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BBS Advantage

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You can also do grey scale and full-motion video over phone lines with this card. Gentlemen, start your toasters. Call CARDZ BBS at (604) 734-5400 (HST) (604) 734-5901 (2400B), or voice at 1-800-676-3111



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just a few years your telephone, your PC, your television, and quite possibly your toilet will all be connected to a GLOBAL electronic network. And it would appear that for fair or foul, we predict that network will grow directly out of what we now refer to as the Internet.

In any event, if you like to follow the growth of Internet statistically, these files are updated monthly and available by ftp. To download the latest:

```
ftp nis.nsf.net
Name: anonymous
Password: guest
cd nsfstats
get nsYY-MM.btraffic
(where YY = year and MM = month)
```

Note one confusing peculiarity about this system. It does not really use a hierarchical file structure. Normally, to change to the NSFSTATS directory, you would enter the command CD /NSFSTATS. On this system the slash character is omitted.

Another interesting series of files lie in their MAPS directory. This is a series of Postscript files you can download and print out on a Postscript printer. NCAR.PS, for example, provides a graphic map of the part of the Internet connected to the National Center for Atmospheric Research in Boulder Colorado.

The NSFNet Information Services machine offers some other interesting items. The IMR directory offers newsletters titled Internet Monthly Reports that are a bit technical, but describe developments in the network. The LINKLTR directory contains back issues of a bit more readable and newsy format titled the *Link Letter*.

Actually, there are some files you can obtain from the service without a direct logon via ftp. From any Internet-connected e-mail box, you can request documents by e-mail. We found the full text of the High Performance Computing Act establishing the National Education and Research Network (NREN) here. This is the bill President Bush

signed into law as Public Law PL102-904 on December 9th that pretty much assures some dramatic future to Internet via some \$2 billion in funding spread across the National Science Foundation, NASA, NIST, and several other federal agencies. You can get this file by sending an e-mail message to **NIS-INFO@NIS.NSF.NET**. On the first line of the message, enter the command **SEND NRENBILL.TXT**. A reply will be sent to your mailbox with the full text of the bill.

SUPREME COURT OPINIONS AVAILABLE ONLINE

The legal world is abuzz over a coming showdown on the Supreme Court of the United States over the topic of abortion. Several abortion rights cases are on a steam roller aimed at the bench and much of the news media is all atremble over the prospects of covering an overturn of the ROE vs. WADE decision. Adding to the intrigue is the fact that President Bush is on record as opposing

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abortion, has named a couple of justices to the bench, and is facing re-election this November. It has all the makings of another prime time political soap opera quite beyond Clarence Thomas and William Smith. But this one will be played out online as well.

Nearly a year ago, the Supreme Court of the United States announced a program to disseminate the full text of their decisions in electronic format. The program is called **PROJECT HERMES**. They set up a twelve-line system and awarded twelve different entities access to the opinions virtually as soon as they are made. Most of these are commercial database resellers who seem enormously proud of this data since they are selling it at exorbitant prices. But one of the awardees was **Cleveland Free-net**. Free-nets are, poetically and appropriately enough, free - and thereby so are the Supreme Court opinions.

Cleveland Free-net is accessible by modem at **(216)368-3888**. Those with Internet shell accounts can **telnet 129.22.8.75** to logon as well. The service is entirely free of charge and you don't even have to register to browse

about for an hour. There are currently five Free-nets in operation in different cities and the phenomenon seems to be catching on. As many as 12 additional systems are slated to come online during the first half of the year. Cleveland Free-net started as the brainchild of Dr. Tom Grundner of Case Western University in Ohio, who began with a single line RBBS dedicated to answering medical questions. Today, he is head of the National Public Telecomputing Network, which assists cities in putting up Free-nets. Cleveland Free-net currently has some 22,000 registered users and handles as many as 5,000 logons daily.

Once on Cleveland system, enter **GO HERMES** and you will bypass the menu tour to get to the Supreme Court opinions. The HERMES area is actually a message conference with Supreme Court opinions on various cases in individual messages. We found 482 messages containing opinions entered over the last year. These are not really summaries - they appear to be the full text of the opinions and for some reason, despite the legalese, we found they make fascinating reading.

Cleveland Free-net actually encourages you to capture the text of these messages and re-post them on bulletin board systems. They do ask that you advise them of systems carrying the text so they can demonstrate to the Supreme Court that they are effectively and widely disseminating the data.

TRAVELING AROUND THE INTERNET

by Alan D. Bryant

Boardwatch Magazine has for some time now been covering the vast world of Internet. In rejoicing the editorial staff of Boardwatch after a lengthy respite, it's my hope to add to Boardwatch's expanding Internet coverage.

Internet, for those not personally familiar with it, can only be described as having incredible depth and breadth. The awesome wealth of information is simply overwhelming. It seems the more you find, the more you can find by traveling the network. This month, I present a few gems for your enjoyment.

First is the University of North Texas' "Accessing Online Bibliographic Databases" list, maintained by UNT's Billy Barron (billy@unt.edu). This list, over 300k in size, is probably the most complete and comprehensive listing of libraries whose catalogs are available via the Internet.

The list, copyrighted by UNT but available for free distribution, is wonderfully thorough. It begins with a table of contents, follows with healthy listings of libraries, then appendices, and a complete index. The amount of effort to create and maintain this list is unfathomable.

It includes all the information you need to telnet into the various databases, get signed on, and use the systems. The appendices have more complete usage instructions for the many types of cataloging systems you're likely to encounter in the listed systems.

The list is available for anonymous FTP; connect to [vaxb.acs.unt.edu](ftp://vaxb.acs.unt.edu). Logon using the standard FTP-style convention (`login="anonymous"`).

password=your e-mail address). Once logged in, change directory (cd) to "library". From that directory, get "libraries.txt" for the ASCII text version of the list, or "libraries.wp5" for the formatted WordPerfect 5.x document version.

When using listed systems, be prepared to have a solid VT-100 emulation configured on your system. Ensure that cursor control keys and function keys are properly mapped to their VT-100 equivalents - you'll need them on many of the systems.

One of the items on the list is Data Research Associates, Inc. (DRA) and their online catalog of the some 3.8 million records from the Library of Congress. This isn't the Library of Congress itself, mind you, but many of its records are available. To login to the system, telnet to dra.com and follow the on-screen prompts.

You'll be logged on as a "guest" user. Only two guest users are allowed online at once during business hours (8:00am to 5:00pm Central Time, weekdays).

Although the system allows many types of searches, only two types are allowed from guest users: author searches, and title searches. Other types, such as subject and keyword, are available only to regular system users.

Another system you'll find is the Massachusetts Institute of Technology's library catalog system. Amazingly user friendly (compared to many systems available through the Internet), the system includes help screens (press F1 at any time) and "clean" screen layouts.

This listing of library systems online is invaluable to researchers and students in search of information in published form.

YOUNGSTOWN FRENET

by Alan D. Bryant

If library catalogs aren't your bag, then how about accessing a BBS through the Internet?

The Youngstown FreeNet (YFN) from Youngstown (Ohio) State University and St. Elizabeth Hospital Medical Center is one example of a BBS you can

< YOUNGSTOWN FREE-NET MAIN MENU >

- 1) Youngstown Free-Net Index (index)
- 2) Administration Building (admin)
- 3) Business & Industrial Park (business)
- 4) Youngstown Community Magazine (ycm)
SIGs, The Kiosk, Chat, WITTY, etc.
- 5) The Computer Center (computer)
- 6) Post Office (post)
- 7) The Courthouse (court)
- 8) The Hospital (hosp)
- 9) Youngstown State University (university)
- 10) House of Worship (worship)
- 11) The Government Center (government)
- 12) The Human Services Building (humserv)
- 13) The Teleport (teleport)
- 14) The Animal Hospital (animal)
- 15) The Library
- 16) The USA/Today Headline News

**h=help, go help=extended help
p=previous, m=main menu, x=exit**

ENTER COMMAND OR CHOOSE MENU ITEM ==

telnet into (its address is yfn.ysu.edu). When you connect, login as "visitor" and the system will let you take a look around with some default settings and up to 60 minutes of connect time.

You may need that 60 minutes of connect time. Despite the fact that I was connected into my local Internet site at 9600 bps, and the screens themselves displayed quickly, the load times for the menus and options on the system give you adequate time to become partially or completely gray haired waiting for them. Call me spoiled by multi-line DOS bulletin boards using Wildcat! or TBBS.

One wonders whether the BBS community of which we've all been a part for some time has completely passed over the computing mainstream. One of the intro screens on the system says, "The Youngstown Free-Net is essentially an experimental system. It is a significant 'first' in the field of computing and, because of that, we believe it will be the source of a great deal of study in the years to come." The only "first" that

YFN could possibly be responsible for in my mind is being a BBS on the Internet, and I'm not convinced it was even the first system to do that. Certainly the concept of a BBS is hardly new, but YFN's remark would indicate it's new to them.

After logging in, one of the options you're presented with is a choice to become a registered user. You will need to screen capture a registration form, and mail it to Youngstown FreeNet to get a regular user account.

Once you're online (whether visitor or registered user) things look pretty much like a BBS.

In addition to menus, you can use "go" commands a la Compuserve. The system has a complete index available from the main menu to let you find your way to its various services.

All your favorite BBS features (with the possible exception of download areas) are available, including online multi-user chat (for registered users only). The

system even includes USA Today's Decisionline. In terms of content, it's a wonderfully complete system, but don't expect ANSI color screens or any fancy bells and whistles.

The message boards on the system are essentially typical UNIX-style mail glossed over with a user interface that's somewhat easier to use than the tools available from the UNIX command prompt. There are a lot of areas, however, from animal and veterinary interests to business to photography. It wasn't clear through observation whether these areas are local to YFN, or whether they're actually just Usenet newsgroups.

Access is limited with the visitor login, but you do get a good feel for the system and what it has to offer. Although fascinating to explore, this system's main claim to fame is its Internet accessibility. As BBS go, it's really nothing exceptional.

Dial-up modem access to the system is also available for those without Internet telnet capabilities.

The Youngstown Free-Net Project, ATTN: Lou Anschuetz, Youngstown State University, Youngstown, Ohio 44555; (216) 742-3072 (300/1200/2400 baud).

DIRECT DIAL

BBS FOR TRANSLATORS

The online world increasingly lets us make the connection globally, but with the variety of languages in existence, at least since the Tower of Babel debacle, we don't really connect. While international electronic connections are increasing, it only points up the problem in communicating across languages and cultures.

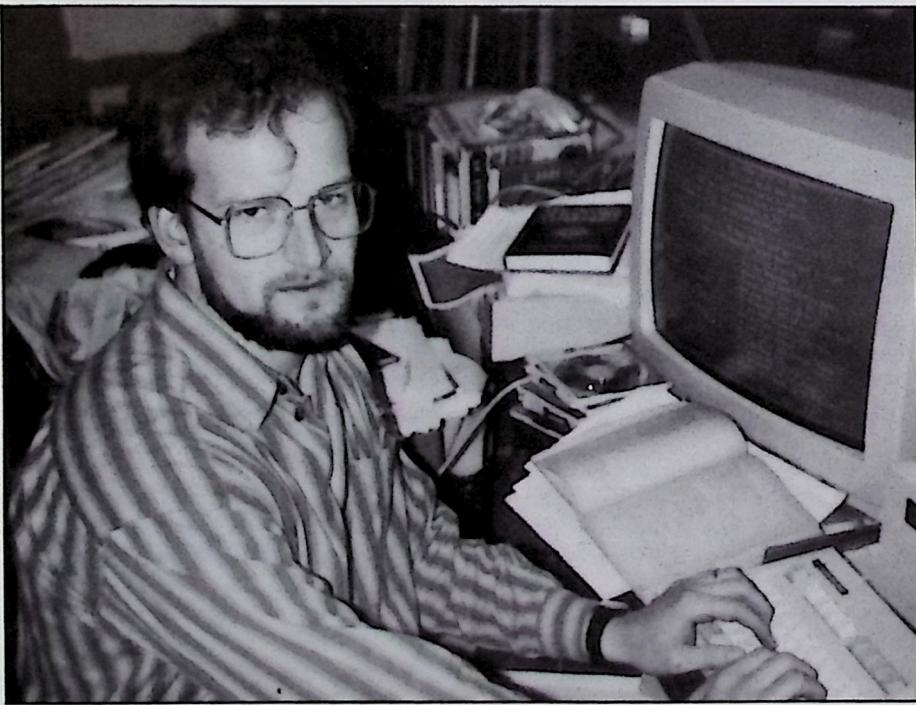
This may be slightly easier in parts of Europe where geographic areas hosting three distinctly different languages are from some places visible with the naked eye from a single tall building. Many people around the world are quite functional in multiple languages.

Americans, by contrast, live in a land spanning over 2000 miles and bordered by Ocean on two sides and predominantly English-speaking Canadians across its largest shared border. Language, even of the English variety, catches but a glancing blow in a trip through our educational system, and as a result, Americans are widely viewed as tongue-tied by most of the world.

Gerhard Obenous teaches German at the University of Illinois and works as a computer consultant for the University's computing services office. He graduated with a degree in translating from the University of Vienna in Austria and is currently working at UI on a doctorate degree in Computational Linguistics. This field encompasses computerized translation of languages - one of the toughest tasks facing the artificial intelligence community and potentially one of the most useful.

His partner is John Felfer, a computer scientist with Hewlett Packard. Together, they've erected a striking BBS titled TRANSNET catering to freelance translators, translation agencies, and those seeking translation services. The system is technically impressive, if a bit rigid, and free to callers. Freelance translators pay \$50 per year to post their qualifications on the system and roughly 100 different translation professionals have signed on - along with 15 agencies. The system serves as a matchmaker service between those needing translation services and those who can perform the deed.

Transnet is really quite superbly focused on the problems of language. It features several quite remarkable databases. Most interesting was a **Translation Aids Database** that listed 239 different dictionaries you could rent or purchase. It was not just the variety of languages represented here that caught us off guard. There is actually a wealth of TOPICAL dictionaries. A *Polyglot Dictionary of Electricity* was available, for example, focusing just on electricity and electrical engineering, that spanned English, German, French, Dutch, Italian, Polish, Russian, Spanish, and Swedish. It contained some 75,000 entries in 1797 pages. A German-English dictionary focused on Architec-



Gerhard Obenous of TRANSNET

tural, Building, and Construction terms. We found a **166** page German/English Dictionary devoted solely to Automotive Emission Control. An English/Chinese tome of some **1209** pages was dedicated to Computer Science. You can purchase or rent any of the dictionaries listed in this database by calling a toll-free 800 number.

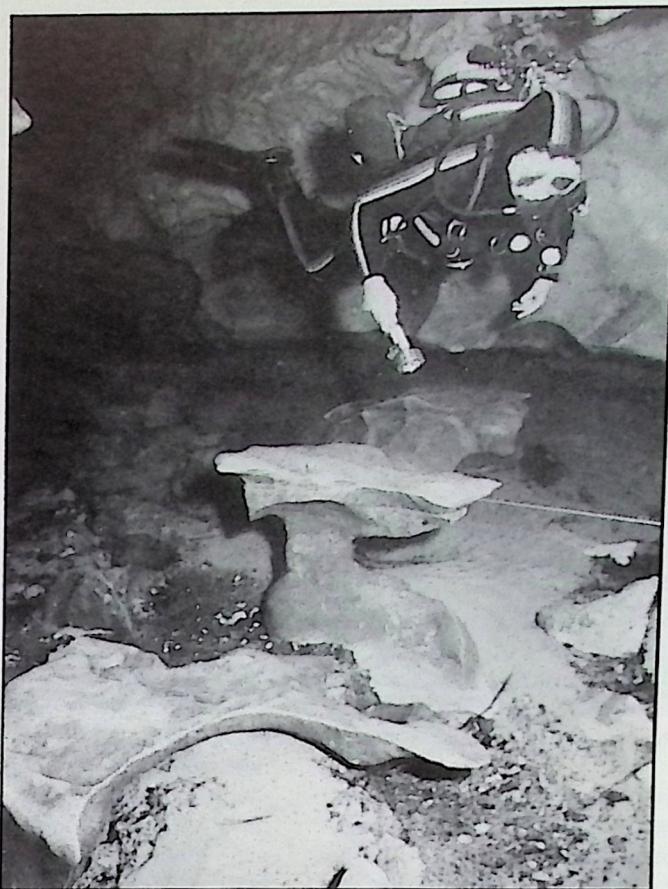
Other databases provided full company information on translation aid software. There are numerous titles now of programs that can do the majority of the work of translating text files between one language and another. In general, someone who speaks both languages still has to go in and clean up the obvious gaffes made by such a translation program, but they make translators more productive.

One file area contains want-ads from people offering translation positions or seeking translators for temporary work. Another file area featured shareware programs and Obenau had amassed quite a collection of multilingual word processors, dictionaries, etc. in Japanese, Cyrillic, and Hebrew. A text file provided a bibliographic listing of 300 books about translation. A Greek keyboard for Word Perfect? A Windows-based Hebrew vocabulary drill?

The result is a nicely focused BBS on a topic in need of an information focal point. But we also found the system quite sterile. A single message base contained barely two dozen messages since the board opened in March 1991. We would urge a bit of conversation and some human life to bring this system to its true potential. TRANSNET. Box 801, Urbana, IL 61801; (217)384-5104 voice; (217)384-5101 BBS.

CAVE DIVERS DO IT DEEPER

I have a weakness for special topic BBS systems. It's no secret that a quick way into *Boardwatch* is to do a BBS on some esoteric hobby, profession, or if nothing else, provide online listings for every Jello mold ever manufactured. It is, in my opinion, the ultimate application of BBS technology and the future of the entire concept of cottage industry online services.



John Crea - Cave Divers BBS

Bulletin boards have some natural properties that just lend themselves to collecting bits and shards of information that make up the legend and lore of any specialized interest. But rather than storing the information in dusty closets, obscure private museums, and the cerebral cortex of aging experts, bulletin boards archive information in a way making ALL of it findable and usable immediately - to anyone with a modem, a phone line, a computer, and a spark of the same interest. BBS are the tools that allow the natural historians and librarians from a thousand-thousand fields of interest make their information available to other people at little cost or difficulty to either party. I work myself up into a froth just thinking about a couple hundred thousand such systems in operation in a decade, with everything known about everything available down to who fashioned the first whatever it was and what the temperature and weather was like that day when they did it, all available somewhere if you know the telephone number.

The National Association of Cave Divers BBS in Bainbridge Georgia provides a superb example of what I'm talking about. This little TBBS system, operating at (912)246-3280, has done a superb job of collecting software programs, text files, and providing active discussion forums catering to grown men and women who strap cans of air on their backs and wander about in dark underwater caves, several hundred feet below the ground INTENTIONALLY. Not only that, it would appear they take their computers down there WITH THEM! This strikes me as remarkably akin to intentionally flushing yourself down the toilet, climbing back up through a manhole in the street, and lunging for the nearest computer so you can compare notes on the experience with your friends.

But just because I don't get it doesn't mean it's not there to be got. The NACD is Spartan, operating on a single 2400 bps line, and does not provide much by way of elegant ANSI menus. Sysop John Crea, a registered nurse anesthetist who also specializes in dive physiology, ex-

plains that many divers work with personal computers but may be quite new to the online world and the NACD BBS is often the first BBS they've ever been on. By keeping the menu system a bit plain, it's much easier for new callers to use and less intimidating.

And NACD BBS has clearly drawn a dedicated group of diving enthusiasts and serves them well with a simple, easy to use menu structure. Started in the spring of 1989, the system serves a population of about 125 divers with a core group of 25-30 who frequent the system regularly.

The system is located in Bainbridge Georgia - about 13 miles from the Florida state line. According to Crea, Florida sports the largest concentration of underwater caves in the country - Missouri holding second place. The system regularly receives calls from around the world from divers planning to make the trip to Florida to dive these caves.

Cave diving is actually quite different from open water diving - and somewhat dangerous for the untrained. Crea actually maintains that its quite safe, but note that he further maintains the acci-

dent analysis files both for the National Association of Cave Divers (NACD), and the National Speleological Society Cave Diving Section (NSSCDS), the two groups serving the sport. I was embarrassed to realize our local Ceremonial Lawn Chair Drill Team doesn't even HAVE an accident analysis file - despite several "incidents" and numerous close calls. We won't even mention the situation at the Denver Chapter of the Amateur Gynecologist Association. We'll let Jeraldo handle THAT one.

Crea allows that the sport does require special training and open water diving doesn't provide it. Some 360 divers have met their maker in caves since 1960 and of these, only 16 were trained specifically in the vagaries of cave diving.

The most common cause of death seems to be diving deep (150 feet or deeper) using compressed air. At those depths, Nitrogen Narcosis sets in - a situation much like being drunk. To avoid this, most deep water divers are using mixed gas - replacing some of the nitrogen with helium.

An Equipment Forum on NACD provides some thoroughly fascinating discussions of diving paraphernalia (still legal in most states). We learned, for example, that the **ScubaPro DC-11** is based on the **Hahn-Buhlmann P-5** algorithm and it should perform a lot like the **DACOR MicroBrain**. As esoteric as this sounds, it actually refers to some diving computers used to calculate wait stops in ascendancy that are actually quite important to these relatively deep divers (160 feet or more) should they prefer to avoid the bends - a painful, potentially disfiguring, and at times fatal affliction. The bends occur when gases dissolved in the blood at depth are released when you move too suddenly to a less pressurized depth. Apparently it's a bit like popping the top off a coke bottle after shaking it, only the bubbles are released into every biological system in your body, and most painfully the joints - causing the afflictee to contort into impossible body configurations in a kind of joint agony - thus the name. This message area also discussed the relative merits of octopus hoses, gas mixtures, and tank sizes with some vigor.

A Dive Site Conditions message area features reports from divers on various cave dive sites with names like Beacon Woods, Little Dismal (and Big Dismal), Cow Springs, Bakerton Mine, Peacock I and Sullivan Sink. These reports seem quite preoccupied with visibility - an odd concept given that these caves are generally pitch dark but I guess they carry lights with them and cloudy water is no fun.

Another message area offers a WANTED/FOR SALE function where callers can actually buy/sell/trade equipment. Like many hobbies where the equipment is a bit pricey, this area serves a valuable function within this group of enthusiasts.

A text area offers information on the sport itself as well as reprints from print media publications catering to the same specialty - articles from *NACD News*, and *UnderWater Speleology* for example. These covered topics such as Oxygen-Nitrogen Mixtures and Cave Diving, the 103.5 cu.ft. Scuba Cylinder, a humorous list of why Cave Divers hate Open Water Divers (they keep asking how much things cost and if they can



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have your equipment if you don't come back), Oxygen - Too Much of a Good Thing, a listing of active dive instructors, and a list of deep cave dive sites in Florida.

The system even offers downloads. How many software programs for scuba divers can there be? Plenty - and this system appears to have all of them - NITROX: a program to calculate NITROX gas mix calculations, DIVECOMP: a program to emulate the aforementioned dive/decompression computers on a PC, DIVELOG: a program to track dives, TANKCAP: graphically compares volumes of tank sizes; DIVER32: a program to calculate air consumption, lift bag values, weight belt values; DCS_TEXT: a text file containing MEDLINE data on decompression sickness.

This system has assembled all the ingredients for a superb special topic BBS, message areas for divers, software programs relating to the sport, a superb collection of text files about diving, affiliations with print periodicals catering to the same genre, and of course the divers themselves. If you have ANY interest in diving a couple of hundred feet down into a pitch dark water-filled hole in the ground, AND who doesn't, you have to dial this system. John Crea, NACD BBS, PO Box 1906, Bainbridge, GA 31717; (912)246-3280 BBS ; (912)246-9349 voice.

THE MOVIE BBS

by Gordon L. Gillesby

"You are traveling through another dimension. A dimension not only of sight and sound but of mind; a fifth dimension beyond what is known to man. It is as vast as space and timeless as infinity. A middle ground between light and shadow, between science and superstition, between the pit of man's fears and the summit of his knowledge. You are on a journey in the dimension whose boundaries are the imagination. It is an area which we call The Movie Zone."

The Movie Zone??!!?



Clarke Ulmer of The Movie BBS

Actually, it's The Movie BBS and if it has anything to do with entertainment or the Silver Screen, then you'll find it here. If you're into movies, old television shows or collect GIFS the way some people collect stamps then rig your modem to dial at warp speed. There are over 4500 GIFS of movie stills here. And that's just for openers. There are also scripts, star addresses, fan clubs, studio press releases, sound files, gifts, memorabilia, contests, games (pause for breath) and quite a bit more.

Got a specific movie passion? Horror, perhaps? "B" movies? Star Trek? Martial Arts films? How about those golden days of television? Want to know when your favorite movie will hit the video store? It's all here. To whet your appetite, The Movie BBS has public nodes with enough sample downloads so even new users get a tantalizing temptation of the multitude of magic megabytes that await serious aficionados.

The Movie BBS is the Fortnum and Mason of the movie world. A sensory delight for the video palate. It's also a little mind-boggling; over 6000 users, 23 message areas, 22 file directories, nearly 7000 files, 17 news bulletins -

some updated daily. We're talking information here, not just pictures. And contests whose prizes range from free downloads to free videos.

"My name," said the distinguished-looking gentleman with a studied pause while flicking open his gold cigarette lighter, "is Bond. James Bond."

Okay, okay. The Movie BBS is not run by James Bond - although you can pick up sound and GIF files of Bond films. But in a world of flurry and hurry, it's rare to find someone who can manage a successful blend of hobby and profit. Particularly in the rapidly escalating competitiveness of the on-line world. Clarke H. Ulmer, Jr. has managed to do just that. The Movie BBS is exactly what it says it is. "This is a labor of love for me," smiles the 26-year-old Ulmer. "It's devoted to Movies and Entertainment. It was started by a DIE-HARD movie fan. Me!"

The manager of a New York City based PC support group, Clarke knows his way around a computer, "I started because there wasn't a BBS that had what I wanted; one devoted solely to movies and entertainment. Sure, some had

movie sections, but nothing exciting or informative enough." Starting in 1989, armed with a Compaq computer, three modems, his extraordinary knowledge of the movie industry and a considerable amount of passion, Mr. Ulmer amassed an impressive array of information and established studio contacts to keep it current. "I enjoy doing the research myself," he admits. By March of 1990 he went public with his PCBoard-based BBS and continues to collect nearly everything related to movies and entertainment.

The board is divided into four parts: conferences, news bulletins, doors, and files. Conferences are the most basic feature and can be summed up with one phrase: if it's on television or in the movie-theater, then there's probably someone among the 23 conferences with a similar predilection. A Star Trek conference covering both generations tops the list but there's also Television Sci-Fi, Comedy and Horror. Movie Music is discussed, along with Marital Arts, the Twilight Zone, British Television, Video Buy and Swap, Animations, Screen-Writing and more.

The Bulletin Menu provides the first real evidence something "completely different" is going on here. After the standard BBS history, policies, membership sign-up and directory descriptions the interesting stuff starts. Bulletin Four reveals goodies in the form of the board's most popular GIFS, pre-packaged for sale with some proceeds going to benefit either Greenpeace or Rainforests.

Bulletin Five is a comprehensive list of Fan Clubs covering a wide variety of yesterday's and today's superstars. Everything from Andre Agassi to Julia Roberts along with several dozen fan publications. Bulletin Ten holds the latest upcoming fan conventions while 11 lists where to find every conceivable form of movie memorabilia: comic books, 50's - 90's Sci-Fi stuff, toys, models, FX props and appliances, masks, posters, books, tapes, and fanazines.

Bulletin Seven lists the top ten grossing films each week. Eight has upcoming release dates for new films well into 1992 and 1993! Want a sample? How about Universal Soldier, the next Van

Damme and Dolph Lundgren beat'em-up slated for release in '92. Batman II, Robocop III and Alien III should release by mid-year. Denzel Washington's next African-American flick is a biography of Malcolm X. Several new movies had no explanation to them: Naked Lunch, Off and Running, Prelude to a Kiss, Straight Talk, The Other Woman and White Men Can't Jump. Perhaps these are the first in a long line of flicks about Clarence Thomas and Anita Hill . . .

Videos are every bit as big as the Big Screen itself. Which is why Bulletin 12 lists recent news on upcoming Video releases. Fantasia has, at long last, come out on video. Bulletin 13 shows the top ten videos each week for both rentals and sales.

Want to contact a studio with that script you've written in your spare time? Or ask your favorite celebrity to star in your very own low-budget film? Just want to know where the stars hang out so you can go schmooz and mingle? It's all listed in Bulletin 14. If you're looking for a specific script from a favorite television or movie episode then check out Bulletin 15. Last, but certainly not least, the really HOT entertainment news and late-breaking gossip resides in Bulletin 17.

Then there are the Doors. Not the rock group, thank you, just more places to indulge one's love of the movie world. Ulmer's two favorites are Star Trek and Reviews - where visitors write their own movie reviews. Look out, Rex Reed! Three others are standard door-gaming fare: Vault, Combat and Dodge'em; there's also a BBS listing program. The rest of the doors qualify as Nirvana for those hooked on trivia. There's Sports Trivia, Hitchcock Trivia, StarWars Trivia, TVFilm Trivia and Trivia Trivia (general movie and entertainment). All in all, several hundred questions for the trivia buff near you!

News is news and Doors are . . . well, you get the point. Of more interest to casual fans are the files available for downloading. Clarke is the first to admit his love for pictures, "I love to collect GIFS of stars and I am a devoted Trekkie . . ." Gee, with a couple hundred Star Trek GIFS available, who'd think that?

In 22 file directories, there's simply tons of material; among them is the usual collection of utilities, GIF viewers, the obligatory Windows Icon section and games. But the rest are movie music and sound effects, female stars, male stars, scripts, and episode guides. There are entire sections devoted to Horror, Sci-Fi, Fantasy, and Televisions Shows both new and old. Don't discount New Uploads, either, where there's over 1600 other files - some GIFS, some text - ranging from assorted risque GIFS to political cartoons uploaded by members.

As of this writing, The Movie BBS held nearly 700 sound files for Adlib, Sound-Blaster, MACintosh, etc. Among them: 007 theme, Alf quotes ("Hah! I kill me!"), enough Bart Simpson to make anyone sick, Monty Python quotes, movie theme music and television theme music (Dragnet, Star Trek: TNG). Star Trek quotes include original classics ("Dammit Jim, I'm a Doctor not a...", "He's dead, Jim." and "Captain's log, Stardate...") to the new classics from The Next Generation ("I am NOT a merry man!", "Engage...", and Data giggling uncontrollably).

Clarke has, of course, put in just a few of his own scans. Over 627 of them in The Movie BBS Gallery. GIFS of male and female stars from movie ratings ranging from G to R abound in Directories Eight, Nine and Ten. Over 1500 GIFS and growing. Directories 11, 12, and 14 combine to hold well over 1000 GIFS from movie and television fantasy (Batman, Superman, cartoons, Disney, etc.); Sci-Fi Movie & TV (Lost in Space, Land of the Giants, Star Trek, Battlestar Galactica, etc.); and Horror Movie & TV (Stephen King, Carrie, TCM, Freddie, etc.) GIFS. Directory 17 holds nearly 500 Episode Guides, Interviews, Cast Lists, Star Biographies, Production Notes for a wide variety of movies and television including more sources of information for Star Trek, Star Wars, Dr. Who, etc. Whew!

Back to the Future? As far as The Movie BBS is concerned, a major system upgrade is in the works. Clarke's adding a new Gateway 2000 486/33 computer, another half gigabyte of rewriteable optical storage, a .QWK compatible off-line mail reader, more phone lines and another USR Courier HST Dual Stand-

ard modem. That's a prelude to loading in several hundred new files. He's also negotiating to create a link between his bbs and Delphi - slated for late spring of 1992.

Clarke Ulmer runs a one person operation. Still, a few small changes would enhance this already excellent BBS. Public Television is a major force in television with programs like Mystery, Masterpiece Theatre, Live from Lincoln Center, Alive from Off Center, etc. which warrant their own collection of GIFS and information files. Clarke is aware of the problem, "I know I don't have too much PBS stuff," he says, "but if [anyone] has any they'd like to send, I will be glad to post it and return [the originals]." Being local to Broadway, it would be nice to see some information about it, too.

At the very worst, these are minor - hardly noticeable - flaws. None should stop you from checking out this marvelous contribution to computer recreation. If you're finding that your telecommuting has become boring and tedious, then have some fun. Stop by, visit with Clarke Ulmer and find out what a movie passion is really all about - just don't forget the popcorn and JuJuBees!

The Movie BBS - Clarke H. Ulmer, Jr. sysop. 718/939-5462 (nodes one, three and four), (node two for subscribers only); P.O. Box 1793 - Bowling Green Station, New York, NY 10274-1134. Running since August 1989, using PCBoard 14.5a on a Gateway 2000 486/33MHz 24 hours-a-day with three Hayes 2400 modems (public nodes) and one U.S. Robotics HST Dual Standard (subscriber node). Subscriptions: \$40.00 for 6 Months or downloading any 400 files, whichever comes first, at the rate of 60 minutes and 1.1 meg per day. The Movie BBS is PC-Pursuitable through NYNYO.

THIS MONTH: ORLANDO FLORIDA

Matt Drury has been doing BBS lists longer than Boardwatch Magazine. His first BBS list was published on July 7, 1983 to provide the Orlando Florida area with a list of 16 operational systems. Today, he publishes a verified list of some 175 systems operating in Orlando, Sanford, and Kissimmee Florida.

Drury, in addition to operating a BBS and publishing a list for the majority of the time there have BEEN bulletin boards, has also run a system of his own titled **City of London BBS** at (407)423-5226 and I suppose you would call him a professional system operator in every respect. He spent awhile working for the QuickBBS Group in Florida after they purchased the QuickBBS package from Adam Hudson. Today, he works with Larry Wood maintaining the GRAPHICS forum on CompuServe.

We fell in love with Drury's list immediately. It's available in a variety of formats, it's updated DAILY, and he runs an auto dial verification program to check EVERY number for carrier tone each Sunday morning, 52 weeks per year. The result is a rock solid BBS list beyond peer containing description information, system operator names, BBS software - the works. According to Drury, the possibility of innocent non-BBS people receiving hundreds of calls from BBS enthusiasts due to inaccurate numbers drives this passion for accuracy and verification with the BBS list. We endorse this sentiment in the strongest terms.

The BBS list is referred to as the Orlando Complete BBS List - available from Drury's system in the file **OCBL.ZIP**. As of January 24, the list carried descriptions for 171 bulletin board systems. The Census Bureau's 1990 estimate for the Orlando Metropolitan area indicates a population of 1,072,748 humanoids or about 6130 peoples per BBS. Applied to a national population of 250 million, this would indicate a current BBS population in the U.S. of 40,783 systems - assuming the Orlando ratio holds true nationally.

Orlando is a QuickBBS town with 43 systems in the Orlando area running QuickBBS - over 25% of the total. Remote Access, a QuickBBS clone, sports a very respectable 29 systems while PCBoard is the third most popular software package at 23 systems. All other titles are far back in the pack with the exception of one we've been noticing consistently makes a strong showing in these surveys - the ALL OTHER package. This demonstrates the wide variety and diversity of BBS software available.

We would note 73 of Orlando's systems note participation in local Fido Network 363 - a very high 43% of the total. Drury's list also provides a date of birth for each board - an uncommon listing. Bill Vermillion's **Orlando Connection** would appear to be the elder statesman of the area - beginning operation in **July of 1981**. And **Liquid Television** would have to win our most interesting title award this month.

ORLANDO BBS SOFTWARE

QuickBBS	43	25.15%
Remote Acc	29	16.96%
PCBoard	23	13.45%
Wildcat!	5	2.92%
WWIV	5	2.92%
RBBS	5	2.92%
Maximus	5	2.92%
Color64	4	2.34%
Spitfire	4	2.34%
Teleguard	2	1.17%
All Other	46	26.90%

As to modem speeds, Orlando is pretty typical of today's modem capabilities with slightly over a third offering 9600 bps or higher connections.

ORLANDO MODEM SPEEDS

1200	4	2.3%
2400	105	61.4%
9600+	62	36.3%

ORLANDO FLORIDA AREA CODE 407

LIST OF ELECTRONIC BULLETIN BOARD SYSTEMS AND ON-LINE INFORMATION SERVICES - MARCH 1992

SERVICE	PHONE	DESCRIPTION	MODEM	SOFTWARE	SINCE	OPERATOR
411 The Information ?	323-0025 657-5153	1:363/77	300-2400	QuickBBS	Feb90 Jan91	Dave Higgins Jasen Stengel
AAA Technorat Nest	657-8958	Messages, Doors, Files	12-2400	Hermes	Nov91	"Techno Rat"
Abacus Info Center	699-1358		300-2400	Opus	Aug87	Mike Harris
Acme	699-4375	1:363/126 Games	300-2400	QuickBBS	Feb91	David Woodall
Adonis	881-8641	Gay Matchmaker, Open forums	300-2400	WildCat	Nov91	"Adonis"
After Eight	886-7207	88 Megs, Games, GIFs, Auto verify	300-9600	PCBoard	Jang1	Sam Bollenjier
Afternoon Delight	870-8556	Files, Messages, Doors	300-2400	WildCat!	Jang1	"Magician"
Alias	656-0523	Amiga Exclusive, USEnet	300-2400	Maximus	Nov91	"Immer Bechtafigt"
Alternate Realities	834-9301	1:363/137 Japanimation, anime	300-9600	RA	Jang92	Steve Fraden
Anime Central	645-2241	Coco 3, OS-9	300-2400	RIBBS	Nov91	Fred Leggett
Applied OS9	823-6346		300-2400	QuickBBS	Apr90	Paul Fitch
Archive	823-4340		12-2400	FoReM XE	Nov91	Marcus Williford
Atarian Domain	855-1317		300-2400	Telegard	Sep91	"Cndr. Maximas"
Bad Street	384-8009		300-2400	WWIV	Aug91	"Bad Boy"
Base 2	628-2948	140 Megs	1200-19k	PCBoard	Nov91	"Captain Harlock"
Bass Master	895-5561	Fishing Games, Idle chatter	12-2400	QuickBBS	Sep90	Vernon Carver
Bears' Den	678-2327	1:363/110 Family-oriented, 1100 files	300-9600	Opus	Jun87	"The Bear"
Big Blue	679-6238	1:363/3 HST, V.32, Mainframes	300-9600	PCBoard	Jun91	John Ervin
Black Cauldron	699-6613		300-2400	RA	Jun92	Dave Biggs
BMXpert On-line	323-5529		300-2400	Telegard	Nov91	Matt Union
Bretter's	678-2391	Alliance	300-2400	Clipper	Nov89	Brett Etter
Bullet Software	277-2007		1200-14k	QuickBBS	Nov91	Bob Morgan
Bullwinkle's Corner	896-5772	Friendly, Simple	300-2400	QuickBBS	Jul85	Bob Nocero
Business	682-2018	1:363/42, Echoes, Files, Games, Store	300-9600	QuickBBS	Mar89	Gale Thompson
C-Net	322-0025		300-2400	C-Net	Jan89	John Popp
Caribbean Islands	296-0253	1:363/33	12-2400	RA	Jun91	"The Kid"
Cassady's Corner	679-2499		300-2400	QuickBBS	Nov91	Jeanne Cassady
Catalog	332-0773		300-9600	QuickBBS	Jan89	Chad Eyer
CDS Central	657-8904	1:363/45, HST	1200-14k	Spitfire	Nov91	Dave Steinman
Cemetery	894-4706		300-2400	Colossus	Dec91	Clay Fugite
Central Florida Psycho	645-1658	1:363/52, Psychology, Adult, 60 Megs	300-2400	Maximus	Feb89	David Johns
Choice Net Systems	895-1445	1:363/92, Original GIFs, MediaTV	300-2400	QuickBBS	Apr90	Mike Kilpatrick
Christian Computers	240-1460	1:363/136, Christian	300-2400	RBBS	Feb90	Walter Trippie
City of London Club	859-2243	1:363/69, Neopagan, SCA, This BBS List	300-2400	RA	Feb85	Matt Drury
PCR Relay	290-0404	1:363/52, Cuisine, HST	300-2400	Carina II	Apr87	Gail Kindstrom
Commodore info	830-5316	Commodore info	1200-19k	PCBoard	Aug90	Jim Murphrey
Comp Comm	291-8730		300-2400	Color64	Jul87	Jim Isaacs
Comucopia TBBS	295-2749	Lottery results	300-2400	PCBoard	Jun87	Bob French
Crooked Dragon Inn	645-4929	1:363/18, MultiLine, Christian, TRS80	300-14k	TBBS	Aug86	Jim Howard
Coffee Shop	382-5275	Finet#213, Messages, Games, Adult, Files	300-9600	FoReM	Aug91	"SF"
Dangerous Dimension	983-8752		300-2400	TAG	Dec91	
DataExchange	880-4598		300-14k	PCBoard	Mar86	Ryan Tharp
DataGate Connection	889-2961	1:363/31, 175 Megs, HST/V32	300-14k	RA	Dec88	Dale Nimlicht
Day After	886-0494	IDENTIFY program, Adult, Windows	300-19k	RA	Jun90	Jim Russ
Debbie's Couch	671-2135	1:363/777	300-14k	RA	Oct91	Jimbo Wilson
Deltona Lakes	292-3211	ThrobNet, UNI-Net, FUNII	1200-19k	PCBoard	Mar91	Debbie Campbell
Digital Connection	574-9246		300-9600	RA	Nov91	Tom Hirtreiter
Door	896-0494	1:363/34, HST, QuickBBS HQ, 30 Megs	300-9600	QuickBBS	Jul89	Richard Creighton
Dynamic Duo	682-3732	1:363/130	300-9600	RA	Nov91	Neil Peiman
Dyna Tak Industries	293-6313	Software support, Architects, Engineers	1200-38k	GAP	May90	Dean Wittman
E-Mail/Fax Connection	877-7372	1:363/222, Doors, Messages, Files	12-2400	QuickBBS	Dec88	Law Donie
Electric Shop	366-7940	QuickBBS, E-Mail, Fax, Merchant Coupons	300-2400	QuickBBS	May91	Dennis Unger
Endeavour	678-2106	MNP-5, CallBack door	24-2400	MSdos	09a-0	Bob Dike
	330-0221	Files, Games, Echomail	12-2400	PCBoard	Nov89	Jade Apisukh

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Entropy	740-7879	300-2400	Color64	Nov91	"Havoc"
Excalibur	294-0525	300-2400	QuickBBS	Feb91	"The Lorad"
FAA SO FSDO-15	648-6963	300-2400	QuickBBS	Dec91	Bill Hoenstine
FABulous	277-3449	300-19k	PCBoard	Apr87	Hewie Poplock
Falcon's Lair	629-4-647	1200-38k	PCBoard	Feb89	Brad Pierce
File Exchange	332-4-878	300-2400	Opus	Feb90	Bob Thornton
Fishion House	240-6593	300-9600	C-Net	Jan92	
Fox Online	324-1700	300-2400	Telix	Jul91	Glenn Fox
Freedom Line	423-2111	300-2400	RA	Dec87	Dale Malone
Fres Software	324-1176	12-9600	QuickBBS	Apr90	Gilbert Fres
Galaxy	321-8698	12-9600	Auntie	Sep91	Steve Griffin
Gaming Connection	869-4-582	300-9600	QuickBBS	Oct90	Matthew Chidester
Genenc	380-7680	1200-14k	QuickBBS	May91	Jack Roseboom
Gourmet Delight	649-4-136	300-9600	QuickBBS	Nov88	John Hicks
GSIC	294-9-944	12-2400	Maximus	Nov91	Gregory Shultz
HomeBody	322-3592	1:363/81, 80 Migs, Friendly Sysop	QuickBBS	Jan90	Don Kreusch
I/O Board	331-1-070	1.2 Gigs, SmartNet	PCBoard	Apr90	Richard Hardoon
Infinite Space	381-8497	1:363/107, 50 Games, 125 Confs, Adult	RA	Jun87	Lenny Lacey
Infinite Space [3]	240-1790	Games, GIFs, Adult, Football league	RA	Nov91	Herb Scherker
Inquisition	699-9251	1:363/145, BASIC files	WWIV	WWIV	
King James Bible	880-3823	1:363/1611, Christian, Fundamentalist	QuickBBS	Aug85	"The Editor,"
Known Space	677-8499	40 Migs	QuickBBS	Aug85	Ron Czarnik
Lair of the Wolverine	294-9446	Great sysop, Story, Apple section	RBBS	Oct89	Doug Abbott NS1A
Laser	330-1788	1:363/95, Amiga, MSdos, 80 Migs	RA	Mar85	William H. Byrd
Liquid Television	880-1606	Text files	Color128	Aug85	"Harold Johnson
Listening Post	365-5809	1:363/1123, Amateur Radio, Satellites	QuickBBS	Jun91	Dennis Leigh
Lone Wolf	894-5641	1:363/129, Adult, Games, T-Door	QuickBBS	Mar85	Slick Leigh
Longwood Connection	788-4340	1:363/82, Yankee Trader, Elyntha	RA	Jun91	Victor Alvarado
Magic City USA	628-5583	100% Graphics	PCBoard	Mar91	John Temples
Magic City USA [3]	628-2546	1:363/114	QuickBBS	Aug87	Mike Sylvestre
Master Mike	696-6112	jwt.UUCP, USEnet news, Games, Chat	Waffle	Feb90	Robert McDonald
Matrix	438-7138	1:363/132, HST, USR DS	Michigan	Jun91	Terry Ray
McDonald's Computers	886-1632	1:363/502	TAG	Feb90	Nick Butler
MedCom Systems AST Exp	293-4543	Music, GIFs, Utilities, ROLs, MODs	QuickBBS	Apr91	Thom Sharbaugh
Mega Music	296-0209	Adult, Clipart, Windows 3.0, Graphics	PCBoard	Aug87	Dan Gibson
Micro Design	884-8892	1:363/1132, WildCat	PowerBBS	Feb90	David Mitchell
Micro-Imaging	847-5499	1:363/132, HST, USR DS	RA	Mar91	Gary Holland
Micro-Tech Solutions	380-1093	1:363/502	QuickBBS	Jun91	Gary Holland
Mitchell Industries In	695-1613	12-9600	QuickBBS	Jun91	Gary Holland
Moonlighter	292-6080	PD Shareware, Ami-Back Support, HST	RA	Feb90	Gary Holland
Moonlighter	295-6992	PD Shareware, Ami-Back Support	BBB	Feb90	Gary Holland
Moonlighter	292-6952	PD Shareware, Ami-Back Support	BBB	Feb90	Gary Holland
MoonRose HQ	568-8774	Tech help, Consulting, Novices welcome	WildCat	Feb90	Kevin Hoffman
Mus-Art MID	292-0444	1:363/103	QuickBBS	May91	Walter Kond
Mystic Pharos	438-7093	1:363/89, FidoNet NC, 16000+ files	RA	Jan89	Al Hays
Narcosse	892-8483	1200-19k	PCBoard	Dec91	Steve Gabrilowitz
NCC-1701 Node 2	380-1701	1:363/1071	QuickBBS	May88	Brian Keck
No Name	348-2006	300-9600	WildCat	Dec91	Michael Kirst
Noble House	847-8990	1:363/115, Medical database	RA	Nov91	Michael Gailliot
NTSC	380-4536	1:363/135, Gay/Adult area, Adult text	QuickBBS	Jun88	Pat and Jim Keller
Nurse Corner	299-4762	300-2400	Maximus	Mar88	James Scott
Obnoxio's Circus	671-8956	1:363/136, Pascal Freaks, USEnet	QuickBBS	Dec90	Andy Ray
On the Line	788-7573	1:363/134	SplitFire	Nov91	Robert Shrader
One-Eyed Jacks	438-0878	Twin Peaks, Audiovisual, 40 Migs	UA	Mar91	Bill Vermillion
Orlando Connection	644-8327	300-2400	QuickBBS	Jul81	Darell Cadwallader
Orlando Super System	297-1173	1:363/363, Pascal Freaks, USEnet	FBBS	Oct91	Bob Colbert
Orlando TDD	657-7011	Boy Scouts, Handicapped, TDD Phone Book	FBBS	Jul83	Jim Smith
Osceola Express	647-1147	300-2400	Carina	Jul91	Larry Charpiat
Outer Planes	348-5295	300-2400	Supra128	Nov91	"Eloran De Mag"
Page Three	898-3859	Free access, 100 Migs, Verify door	PCBoard	Mar87	Jim Lockhart

ORLANDO FLORIDA AREA CODE 407

LIST OF ELECTRONIC BULLETIN BOARD SYSTEMS AND ON-LINE INFORMATION SERVICES - MARCH 1992

SERVICE	PHONE	DESCRIPTION	MODEM	SOFTWARE	SINCE	SYSOP
Paladin	380-0729	1:363/729, Gold Fire Ent., Tech Support	300-2400	QuickBBS	Mar91	Dan Long
Philosopher's Stone	299-3661	67 Megs, Xenix, Usenet	300-2400	XBBS	Apr87	Vick DeGiorgio
Power House	649-3402	Games, Files, Messages, Conferences	300-38k	PCBoard	Sep91	Steve Messerschmid
PowerLine	957-8863	HST	1200-14k	PCBoard	Aug90	Ron McCorkle
PowerNet II	892-8000	HST	1200-14k	PCBoard	Jun91	John Davis
PowerNet	834-3326	1:363/118	300-2400	RA	May91	Richard Brannon
Pro-Magic	366-0156	Apple II tech, USEnet, Ham Radio	300-9600	Proline	Dee89	Mike Ungerman
Program Exchange Serv	870-2735	1:363/733	12-2400	TAG	Jungo	Fred Kusner
Programmer's Haven	841-8243	1:363/88, Games fu	300-2400	QuickBBS	Mark Tutt	Mark Tutt
Ramnet	323-2393	ICN 19, Games, Atan ST, SIGs	300-1200	QuickBBS	Feb88	Wil Dershimer
Realm of the Rings	830-7472	ICN 19, Games, Atan ST, SIGs	300-2400	Carina	Oct89	James Tackett
Realms of Chaos	299-8345	96-9600	Paragon	Paragon	Jang92	"Stlick"
Renegade Software	859-1542	12-2400	Color64	Color64	Nov91	Allen Fitzsimmons
Revelation	856-0356	300-9600	QuickBBS	QuickBBS	Jun89	Sal Ferdico
Rotary After Hours	438-6167	300-2400	Wildcat!	Wildcat!	Dec90	John Pollins
SCSI Resource	862-4724	1200-19k	RA	RA	Mar90	"A.G.E."
SE Connection	898-5649	160 Megs, PTSE	300-2400	GBBS Pro	Juli85	Chuck Antrim
Shadow Company	327-5268	1:363/138	300-2400	RA	Nov91	Carl Finkleiday
Skeleton House	894-0263	1:363/7111	300-9600	RA	Apr91	Carl Finkleiday
Skeleton Mail Room	895-7434	1:363/71	300-9600	RA	Jan90	Carl Finkleiday
Skeletons Basement	894-6932	1:363/7171	300-2400	RA	Jan90	Carl Finkleiday
Spaceborn II	282-6555	PCRelay, Files, Games	300-2400	PCBoard	Dec85	Kevin Brown
SpeakEasy	291-4626	Awesome RPG, 105 Megs, Great PTSE	1200-19k	PCBoard	Jang91	Steve Page
Spies Den	291-7150	1:363/91, Trek, 106 Megs	300-2400	DBBBS	Sep90	"James Bond"
Starfleet Command	366-8735	300-2400	Paragon	Paragon	Feb91	Steven Pease
Starship	658-1425	300-2400	Michtron	Michtron	Aug85	Tony Till
Storm Front	774-7348	1:363/101, 100+ Megs, ANSI, QuickBASIC	1200-38k	RA	Julg0	John Kuczynski
T.I.T.S.	886-6678	1:363/678, Match Maker, Callback	1200-19k	QuickBBS	Jang1	Elaine R. Richard
Tele-Communicator	657-1033	AT&T/Bellsouth info	300-14k	Spitfire	Jan90	Ray McKeand
Teistar	382-6496	300-2400	Carina II	Carina II	Dec91	John Dunman
Temple in an Answering	291-6894	300-2400	TransAmig	TransAmig	May91	Art Fish
Testia	957-6191	300-2400	Color64	Color64	Juli91	"Scarab"
TimeWarp!	677-9538	300-2400	RA	RA	Nov91	Peter Singhofen
TJ's	886-7354	1:363/143, Files, Games, Networking	300-2400	QuickBBS	Jun91	Bill West
TJ's [2]	327-6601	300-2400	QuickBBS	QuickBBS	Aug90	Joseph Scinta
TLC Node I	865-5421	1:363/6969, 670 Megs, HST/V42DS	300-14k	QuickBBS	Nov91	Tim Valis
TLC Node II	788-8178	1:363/709	9600-14k	QuickBBS	Nov91	Chuck & Frieda Fri
TLC Node III	788-0963	1:363/12, Home of Baker's BBS List	12-240	QuickBBS	Nov91	Chuck & Frieda Fri
Tom's PC	788-3779	150 Megs, 4 Nodes, Aliases	300-2400	Maximus	Dec87	Thomas Baker
Toolbox Online [4]	380-0849	300-2400	Major	Major	Oct89	Edmund Chieuw
Top Gun	381-5403	300-2400	FoReM ST	FoReM ST	Feb90	Ray Baggs
Top Rock	880-4968	300-14k	PCBoard	PCBoard	Apr91	Darrell Riddle
Trap Door	894-6784	300-2400	RA	RA	Nov89	Randy Fox
Treasures	831-9130	600 Megs, PCRELAY hub, Rime -Treasure	12-9600	PCBoard	Feb86	Jim Daly
Twilight Zone	831-1613	300-14k	/Turbo	/Turbo	May85	Bill Scull
Two Diamonds	679-3735	300-2400	QuickBBS	QuickBBS	Dec90	Ron Murray
Up East	273-7849	300-2400	QuickBBS	QuickBBS	Nov89	Blake Palmer
Villa Straylight	297-1180	300-2400	WWIV	WWIV	Oci90	"Wintermute"
Wallock's Domain	862-9040	300-9600	RA	RA	Nov91	Troy Newcomb
Weekender	568-8332	300-2400	QuickBBS	QuickBBS	Jan90	Inn'rDutton
West Orange	293-2724	300-2400	RA	RA	Jan90	Mike Bullington
Witech	293-3523	300-2400	Splitfire	Splitfire	Mar91	Richard Wilson
Winter Park East	657-7218	12-2400	RA	RA	Sep91	Bruce Millner

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BOARDWATCH LIST OF BBS LIST KEEPERS

BBS LIST TOPIC	LIST AUTHOR/EDITOR	CONTACT BBS	TELEPHONE
Republic of South Africa	Henk Wolsink	Catalyst BBS	(041)34-1122
Darwin National BBS List.....	Meade Frierson	USBBS Update Line	(202)547-3037
BBS With Handicapped Focus	Bill McGarry.....	Handicap News BBS	(203)337-1607
Seattle AC 206/West Washington.....	Bob Dinse/Nanook	Eskimo North	(206)367-3837
Autocad Related BBS	Jason Osgood.....	Alacrity BBS.....	(206)643-5477
Kitsap County Washington.....	Michael Schuyler.....	Quicksilver BBS.....	(206)780-2011
Maine BBS	Eric Rodzen.....	MaineNET BBS	(207)767-1273
Astronomy/Space BBS	John Pickens.....	Starbase III BBS	(209)432-2487
NY/NJ/CT/PA/DE		Network One BBS	(212)628-5486
Graphical User Interface BBS.....	David Shapiro.....	The Gooey (GUI) BBS.....	(212)876-5885
Southern California	Mike Hefferman.....	SOCAL Corner.....	(213)422-7942
Open Access UNIX Sites		LGNP1 (login:GUEST)	(215)348-9727
Area Code 609 - New Jersey.....	Ron Brandt	Satalink BBS.....	(215)364-3324
Area Code 215 - Philadelphia.....	Ron Brandt	Satalink BBS.....	(215)364-3324
Cleveland Area 216.....	Eric Rickin	Wine Cellar	(216)382-2558
Handicapped Issues BBS	Richard Barth	HEX BBS	(301)593-7357
Baltimore Area 301	Phillip Bailey	Baltimore BBS News	(301)633-7870
Medical Issues BBS.....	Edward Del Grossio	Black Bag	(302)731-1998
Denver Colorado AC 303.....	Bob Voorhees.....	Professional System.....	(303)740-2223
Detroit Area 313	Horst Mann	Tony's Comer	(313)754-1131
ASP BBS Member List.....	Bob Ostrander	PBS-BBS	(317)856-2087
Engineering Related BBS	Arthur Petzelka	Computer Plumber	(319)337-6723
Rhode Island Area 401	Mike Labbe.....	Eagle's Nest	(401)732-5292
Atlanta Area 404	Online Atlanta Society	OASIS	(404)627-2662
Atlanta Area 404	Rodney Aloia	INDEX System	(404)924-8472
South Florida Area 305/407	Eric Thav	Silicon Beach BBS	(407)276-3750
Orlando Florida AC 407	Matt Drury	London BBS	(407)859-2243
Milwaukee Area 414	Jim Belot	The Keep BBS	(414)372-3488
Arkansas Area 501	Bob Underdown	The Gaslight BBS	(501)444-8420
Portland Oregon BBS	Lisa Gronke	DawGone Disgusted	(503)297-9145
New Orleans BBS List	Jeff Jones	Southern Star BBS	(504)885-5928
Austin Area BBS List AC 512	Michael Allen Menoskey	=ACE*BBS=	(512)258-9989
Selected BBS	Joseph Caplinger & Son	J&J's BBS	(513)236-1229
List of Gay/Lesbian BBS	Eric Blair	S-TEK BBS	(514)597-2409
The List National BBS List	James Toro	PDSLO (The List)	(516)938-6722
Area Code 517 - Mid-Michigan	Rick Rosinski/SAMM	Wolverine BBS	(517)695-9952
Wisconsin 608		JW-PC Dataflex.HST	(608)837-1923
South Jersey Area 609	Dave Schubert	The Casino EBBS	(609)561-3377
New Jersey Area 201/609/908	Wayne R. Morton	Praedo BBS	(609)953-0769
MIDI Music BBS	Lee Smith	MIDImaze BBS	(615)877-5528
Massachusetts Area 508/617	Dave Goodenough	Wyzard's Castle	(617)825-3135
San Diego, CA AC 619	Ron Dipold	Computer's Edge	(619)573-1675
Apple II BBS with Internet con	Morgan Davis	pro-sol	(619)670-5379
OS/2 BBS Systems	Pete Norloff	OS2/Shareware BBS	(703)385-4325
Washington DC BBS List	Mike Focke	Interconnect	(703)425-2505
Genealogy Related BBS	Richard A. Pence	NGS-CIG	(703)528-2612
Desktop Publishing BBS	Frank Atlee	Byrds Nest	(703)671-8923
Ontario Area 705	Alex Draper	Cottage Country BBS	(705)835-6192
Chicago	Colby Jordan/Peter Anvin	Stillwaters	(708)403-2826
Chicago	David Nathan	HURK BBS	(708)801-0823
Houston Area 713	David E. Wachenschwanz	Atomic Cafe BBS	(713)530-8875
Rochester NY AC 716	Jerry Masefield	Pigeon Coop BBS	(716)262-2612
Central California Area 805	Larry Honore	His Board	(805)652-1478
Kansas City Area 816/913	Roy Timberman	Sound Advice	(816)436-4516
Dallas/Ft Worth Area 214/817	Mark Robbins	Second Sanctum	(817)784-1178
Tulsa Oklahoman Area BBS List	Linda Hargraves	Access America	(918)747-2542
Raleigh NC Area Code 919	Mike Stroud	Micro Message Svc.	(919)779-6674
U.S.S.R. BBS List	Serge Terekhov	Court Crimson King	7-3832-356722

BOARDWATCH MAGAZINE

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The Round Table BBS (215)678-0818
Reading, Pennsylvania since 03/90. Sysop: Dan McCoy. Using PCBoard 14.5/E6 with 5 lines on MS-DOS 80386 with 1300 MB storage. Zoom at 2400 bps. \$30-55 Annually fee. USRobotics HST/DS at 215-670-5323. 2 CD-ROM's On-line w/ an additional 1.2GB & 30,000 Files. Carrying all the RIME Conferences w/ select Conferences from SmartNet, Newlife, RaceNet & RF-Net. Over 350 Conferences. USAToday, ODMR, & others.

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Clark Development Company, Inc., developer of PCBoard BBS Software, has made a standing offer to pay 50% of the cost of any classified advertisement in *Boardwatch Magazine* placed by any BBS that uses PCBoard 14.5A software. Your cost for an ad here: \$12.50 per month

The Sounding Board BBS (303)444-7942 Boulder, Colorado since 08/88. Sysop: Pat Nefos. Using WildCat 3.02M with 2 lines on MS-DOS 80386 with 2100 MB storage. U.S. Robotics at 14400 bps. \$25.00 Quarterly fee. RIME Hub (303), Soundfiles/Electronics our speciality. FAX/Daily Weather and SKIReport/TOMCAT/Compuserve Gateway for Spring 1992! CD-ROMS, USR Dual for MEMBERS Over 25,000 Files. Free Trial Membership for 30 Days. Give us a Call!!

The Comm-Post (303)534-4646
Denver, Colorado since 06/86. Sysop: Brian P. Bartee. Using TBBS 2.2 with 8 lines on MS-DOS 80386 with 2500 MB storage. U.S. Robotics at 14400 bps. \$50 Annually fee. An ASP-Approved BBS with one of the finest collections of IBM-Compatible Shareware. Many areas have free download access including an extensive library of

Astronomy Software & Data files. Access to hundreds of Message Echos. The Friendliest BBS around!

Pinecliffe BBS (303)642-7463
Pinecliffe, Colorado since 01/82. Sysop: Craig Baker. Using Ultrabbs 2.09Beta with 10 lines on MS-DOS 80386 with 5100 MB storage. U.S. Robotics at 14400 bps. No fee. Largest BBS in RockyMtn Area! FREE BBS (but \$20/yr gets 2hrs/day! \$100 LIFETIME membership!) 27,000 zips. CD-ROMS online. Games. Home of CDBREG -- allows immediate upgrades with credit card. Sysop also a computer store. NightOwl Rom \$79. Help us grow!

Sound Doctrine Church's BBS (303)680-7209 Aurora, Colorado since 01/87. Sysop: Tim Williams. Using TBBS 2.2m with 3 lines on MS-DOS 80286 with 800 MB storage. Supra at 2400 bps. No fee. For serious Christianity only! Where non-believers can ask the questions their Christian friends wish they wouldn't. Free items can be ordered while on-line. Look for the women's echo called Adam's Rib and our international echos. Find out who equals 666

Stoic Financial BBS (303)940-7746
Wheat Ridge, Colorado since 08/91. Sysop: Richard Hiatt. Using WildCat 1.03 with 1 line on MS-DOS 80386 with 120 MB storage. Hayes at 2400 bps. No fee. Financial Information on all markets, commodities, stocks, futures and options. Gif charts, spreadsheet ready templates, 1-2-3 ready price history files. Dir. of Investment & Trading Professionals. Educational & Technical info on trading strategies.

European Image BBS (305)256-2672
Miami, Florida since 07/91. Sysop: Mark Robbins. Using WildCat 3.01M with 2 lines on MS-DOS 80386 with 330 MB storage. U.S. Robotics at 14400 bps. \$30 Annually fee. Hundreds of adult images imported directly from France, Greece, Sweden, Germany and more! Why download images that you can pick

up for \$4 from the local convenience store? Plus, VERY active message bases and SIGS.

Chicago Syslink (312)622-4442
Chicago, Illinois since 06/81. Sysop: George Matyaszek. Using TBBS 2.2M with 11 lines on MS-DOS 80386 with 130 MB storage. Multitech at 9600 bps. \$20 Annually fee. When you're ready for some interesting Online Interactive Games (30+), and some very interesting people to chat with Online, give us a call! We also feature a good selection of files, magazines, other FUN things to do. Call right NOW!

EzPC(tm) (414)962-9256 Milwaukee, WI since 04/90. Sysop: Phil Thien. Using TBBS 2.2M[2] with 2 lines on MS-DOS 80386 with 600 MB storage. U.S. Robotics at 14400 bps. No fee. Home of Electrik Text(tm), a powerful, fast (indexed) keyword searching engine w/ AND/OR/NOT and nesting capabilities. Search 8-MB of USA Today in only seconds! Also the home of the Reseller Forum for computer dealers/VAR's (registration required).

Cul-de-Sac Bar & Grill (508)429-1784
Holliston, Massachusetts since 03/85. Sysop: Pete White. Using TBBS 2.2M with 5 lines on MS-DOS 80286 with 380 MB storage. U.S. Robotics at 14400 bps. \$45 Annually fee. The home of many TBBS/TDBS software packages, and an almost continuous beta site for many TBBS/TDBS software authors. Like Ben Cunningham's 10,000 message system with full screen editing and quoting, and Jeff Johnsons On-Line Sales Manager.

HoloNet(SM) (510)704-1058 Berkeley, California since 02/92. Sysop: Information Access Technologies, Inc. Using HoloNet 1.0 with 8 lines on UNIX with LOTS MB storage. V.32bis/V.42bis/MNP at 14400 bps. No fee. Uses custom program for IBMs and Macs to upload and download in the background! Features: Internet E-Mail Talk, TELNET, FTP, IRC, USENET, Multi-player games, GIFS, USA Today Decisionline, Boardwatch Online, and more. FREE TESTING 15-FEB to 15-MAR.

THE EAST END CONNECTION (516)325-1681 Remsenburg, Eastern LI, NY. since 11/91. Sysop: Russell Weisenbacher. Using WildCat 3.01 with 1 line on MS-DOS 8088 with 30 MB storage. Everex at 2400 bps. No fee. Our system caters to the Professional. We provide areas for Teachers; An Insurance/Investment area; Information

about The Hamptons; Computer/Electronics Q&A; Automotive Q&A; Hobbies (R/C autos, planes, and trains); Science Fiction stuff; plus lots more!

The 3rd Eye Electronic Erotic Magazine (615)227-1636 Nashville, Tennessee since 05/86. Sysop: Michael and Kat Vetter. Using TBBS 2.1M with 3 lines on MS-DOS 80386 with 300 MB storage. PB at 2400 bps. \$20 Annually fee. A friendly gathering place for couples and singles with an interest in the swinging lifestyle. Personal ads (all lifestyles), digitized photos of members, online chat, adult downloads, club information, UNIQUE echos, lifestyle support, multiuser games.

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Chicago, IL since 09/88. Sysop: Charles Parker. Using DLX with 1 line on MS-DOS 80386 with 330 MB storage. at 2400 bps. No fee.
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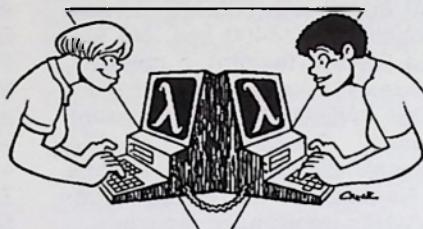
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BOARDWATCH MAGAZINE

NATIONAL LIST OF ELECTRONIC BULLETIN BOARD SYSTEMS AND ON-LINE INFORMATION SERVICES - MARCH 1992

SERVICE	PHONE	DESCRIPTION	SPONSOR/SYSOP	LOCATION
ADA 9X Project Bulletin Board	(800)232-9925	ADA Programming Language Revisions and News	Chris Anderson/Susan Carlson	Eglin AFB, FL
ADA Information Clearinghouse	(703)614-0215	Information on ADA Programming Language/Military Specs	Department of Defense	Washington, D.C.
Advanced Data Services Inc.	(301)695-9116	22 line PCBoard with 5.5 GB of Files	Blaine Brodka	Frederick, MD
American Cybernetics BBS	(602)968-1082	Multi-Edit Product Support BBS	American Cybernetics	Tempe, AZ
ANARC BBS	(913)345-1978	World Radio/TV Handbook - Short Wave Freq Lists/Scheds.	Assoc. of North American Radio Clubs	KS
APCUG - GlobalNet	(408)439-9347	Association of PC User Groups - Over 2000 UG officers	Paul Curtis/APCUG	Scotts Valley, CA
Applied Modeling Research RBBS	(919)541-1325	Environmental Protection Agency Atmospheric Models	William Peterson/EPA	Hurdle Mills, NC
Aquila BBS	(708)820-8344	2 GB 14 Nodes Fidonet/Metronet/MCE IL/CHI Graphics	Kevin Behrens/Steve Williams/Chris Babb	Aurora, IL
Ashion-Tate Technical Support	(213)324-2188	dBase and Multimatic Support - CIS HOST NAME:AT BBS	Ashion-Tate Corporation	Torrance, CA
AST Technical Services BBS	(714)727-4723	Superb support system for AST Computer Products	AST Research Inc.	Irvine, CA
AT&T Support BBS	(908)769-6397	Support for PC 6300 and Other AT&T PC Models	American Telephone/Telegraph PC Division	Plainfield, NJ
ATI Support BBS	(416)756-4591	Support for ATI Modems and Video Cards	ATI Technologies	Scarborough, Ontario
Attention to Details	(714)681-6221	Utilities/ASPI/Paritique Utils/Protocols	Clint Bradford	Mira Loma, CA
Audioiphile Network	(818)988-0452	High-end Audio Components, Music, Video Reviews	Guy Hickey/Quatre Speakers	Van Nuys, CA
Automobile Consumer Services	(513)624-0552	New Car Pricing Reports - Used Car Value Reports	Automobile Consumer Services Inc.	Cincinnati, OH
BBS Press Service	(913)478-9239	Home of INFOMAT Online Weekly PC News Magazine	Alan Bechtold/BBS Press Service	Topeka, KS
Best Friends BBS	(714)828-7093	DLX Multiline Chat/Match Social/Sexual	Ann and Joe Wiseman	Fountain Valley, CA
Big Peach BBS	(404)446-6650	Home of Automega and Treeview Software	Marshall Magee/Wagee Enterprises	Noircross, GA
Big Sky Telegraph	(406)683-7680	Education/Econ Development into to Montana rural Communities	Montanna Rural Education Network	Dillon, MT
Bird Into Network	(303)423-9775	Breeding, Raising, Taming, Exotic Birds	Terry Runel/Dave McCluggage	Arvada, CO
BMUG BBS	(415)849-2684	Support for Macintosh owners - files - conferences.	Berkeley Macintosh Users Group	Berkeley, CA
Boardwatch Magazine Online Info	(303)973-4222	Distribution Service for USA Today/Boardwatch/Closing NYSE	Boardwatch Magazine	Littleton, CO
Boca Research Support BBS	(407)241-1601	Support BBS for Boca Modems	Boca Research Inc.	Boca Raton, FL
Book BBS	(215)657-6130	Information on 2000 Computer Books - 800 order number	Business & Computer Book Store	Willow Grove, PA
Borland Download BBS	(408)439-9096	Utilities, Macros, Programming Examples for Borland Products	Borland International/Mike Fitz-Enz	Scotts Valley, CA
Bruce's Bar & Grill	(203)236-3761	24-line Social System - Chat - Games - Downloads	Bruce Lomasky	West Hartford, CT
Bucks Telematics 273/201	(215)493-5242	Local, National, International Message Conferences	Richard Press	Yardley, PA
C.A.R.L. Library Service	(303)863-1350	Citations to 4 Million Texts in Colorado Library System FREE	Colorado Alliance of Research Libraries	Danver, CO
Canada Remote Systems	(416)798-4713	23GB/400000+ files, 3500 Conf's, USENET, B(M)Amiga/Mac & ore	Jud Newell	Mississauga, Ontario
Capital PC User's Group BBS	(301)738-9060	One of the oldest PC User's Groups - 5500 members	Capital PC Users Group/Roger Falman	Rockville, MD
Castle Tabby 107/412	(908)988-0706	Home of TABBY Fidonet Interface Program for Apple Macintosh	Michael E. Connick	Bradley Beach, NJ
Celebration Station	(207)374-5161	Adventure Games, Chat, and Sigs - Children	Noel Stokey (Paul of Peter, Paul & Mary)	Blue Hill Falls, Maine
Census Bureau Office Automation	(301)763-4576	Microcomputers and Office Automation	US Dept. of Commerce/Nevins Frankel	Suitland, MD
Census Bureau Personnel Division	(301)763-4574	Employment Opportunities Within the Census Bureau	US Dept. of Commerce/Nevins Frankel	Suitland, MD
Central Point Software	(503)690-6650	PC Tools - Central Point Anti-virus support board	Central Point Software Inc.	Beaverton, OR
Channel 1	(617)354-8873	70-line PCBoard - 8 GB Files - Internet - 1 000's msg, confs,	Brian Miller/Tess Heider	Cambridge, MA
Chicago SysLink	(312)622-4442	Special Interest Areas for Ferret/Pet Owners, TRS80/Aviation	George Matyaszek	Chicago, IL
Chinet	(312)283-0559	UNIX System offering Internet Mail	Randy Sueß	Chicago, IL
Classi Computer Fields	(317)359-5199	Online System for Classified Advertisements	Steve Edsal/Trader Newspaper	Indianapolis, IN
Cleveland Freenet	(216)366-3888	Cleveland City Information/Ohio Governor's Office Online	Case Western University/AT&T/Ohio Bell	Cleveland, OH
CocoNet	(619)456-0815	CocoNet Support/Demo - HiRes Graphics BBS for Unix Systems	Brian and Patricia Dear	La Jolla, CA
Community Post, The 104/666	(303)534-4646	Astronomy - 725+ MB of Files	CompuCom	Denver, CO
Compact Audio Disk Exchange	(719)520-5000	News and Entertainment - 17 Lines Community Focus	Millard P. Webster	Colorado Springs, CO
CompudCom Customer Support 3BS	(415)824-7603	Buy/Sell/Trade Compact Audio Disks Online	Ward Christensen	Salisbury, MD
Computerized Bulletin Board Sys	(708)849-1132	Support for CompuComm SpeedModem - 9600 bps - \$279	Computing Canada Newspaper	Chicago, IL
Computing Canada Online	(416)497-5283	Treasure Hunting - Metal Detectors - Online Catalog	LaFountain Research Corp/Ad LaFountain	Willowdale, Ontario
Corporate Data Exchange (CDx)	(609)683-4422	First Electronic Bulletin Board - Creator of XMODEM Protocol	Digital Communications Associates	Princeton, NJ
CrossTalk Communications BBS	(404)740-8428	Adjunct to Excellent Canadian PC Newspaper	Career Technologies Corporation	Roswell, GA
CTC IEEE Employment Database	(508)263-3857	PR Newswire/ Business Wire, Logon: hello user.cdx	Pete White	Andover, MA
Cul-de-Sac Bar & Grill	(508)429-1784	Product Support for Crosstalk for Windows/MK4/XVI	Dartmouth College	Holliston, MA
Dante Project BBS	(603)643-6310	Online Database of 20,000 Resumes for Engineering	Thomas E. Dell/Darkside International	Hanover, NH
Dark Side of the Moon	(408)245-7726	Multiline Service - Ham Radio - Humor - TDBS Applications	Matthew Schoen/Delta Enterprises	Mountain View, CA
Data Core BBS	(213)842-6880	Commentary/Research on Dame's Divinia Comedia		Los Angeles, CA

DataLink RBBSS System	(214)394-7438	Dallas Remote Imaging Group/Jeff Wallach	Carrollton, TX
Denver Exchange, The 104/909	(303)623-4965	James Craig	Denver, CO
DragonNet 386/451	(409)765-5459	Robert Michael/Dragon Profit Systems	Galveston Island, TX
East Bay X-Change 372/888	(803)556-7485	Mike Ralleigh	McClellanville, SC
Echo	(212)989-8411	Stacy Horn/Echo Communications Group	New York, NY
Economic Bulletin Board	(202)377-3870	US Department of Commerce	Springfield, VA
Ed Hopper's BBS	(713)997-7575	Ed Hopper	Pearland, TX
Electric Ideas Clearinghouse	(206)586-6854	Bonneville Power Administration WSE	Olympia, WA
Energy Info Admin E-Publications	(202)586-8658	US Department of Energy	Washington, D.C.
eSoft Product Support BBS	(303)699-8222	Phil BeckerleSoft Inc.	Aurora, CO
Event Horizons	(503)697-5100	Home of XRS Offline Mail Reader	Lake Oswego, OR
Exchange BBS, The	(413)521-2191	New York Emulation of THE WELL - Unix CAUCUS Conferencing	Houston, TX
EXEC-PC	(414)789-4210	Economic Statistics/GNP/CP/Employment, Trade Opportunities	Elm Grove, WI
Executive Network	(914)667-4567	Home of uUPCB - PCBBoard Utility for UUCP Connections	Mt. Vernon, NY
Eye Contact BBS	(415)255-5972	Energy Efficiency Efforts in Pacific Northwest-HydroElec	Mill Valley, CA
Falken Support BBS	(703)803-8000	Variety of Petroleum/Coal/Electricity Energy Statistics	Woodbridge, VA
Farwest BBS	(604)381-3934	Home of The Bread Board System (TBBS) BBS Software	Victoria, BC
FAX/Satellite Services BBS	(619)224-3853	64 Line Digitized Graphics Image Library - Adult, GIF files	San Diego, CA
FCC Public Access Link	(301)725-1072	Largest Gay/Bi/Lesbian Multiline BBS in Houston	Columbia, MD
Federal Job Information Center	(313)226-4423	Largest Gay/Bi/lesbian Multiline BBS in US - 230 Lines - 70,000 files - 7 Gigabytes	Detroit, MI
FEDLINK ALIX II	(202)707-4888	Interlink Netmail National Host - Multiline PCBoard System	Washington, D.C.
Fido Software BBS 1:125/111	(415)863-2739	22 line Oracomm - Gay Issues - Popular Chat System	San Francisco, CA
Fido Tech Stand	(31-30-735900)	Support for FALKEN software - 16 lines - doors - chat	Utrecht, Holland
FOG City BBS 125/10	(415)863-9697	Large Western Canada Galacticonn Info System	Framingham, MA
Fred the Computer	(508)872-8461	NOAA Weather Satellite Images - Russian/Japanese Sat Pics	San Luis Obispo, CA
FSBBS Prototype System	(805)543-8227	Fidonet Technical Information for Holland	Convalis, OR
Fun Connection	(503)753-8431	Gay Community - AIDS Info - Desktop Publishing - MACs	Irvine, CA
Gateway Communications BBS	(714)863-7097	Newspaper BBS. Wierdnet Newswire. List of MA Libraries	Lafayette, CO
GDP Technologies	(303)673-9470	Home of FSUUCP and FSBBS - Unix Communications for DOS	San Diego, CA
General The	(619)281-8616	Middlesex News-Adam Gaffin	Thousand Oaks, CA
Gilmore Systems BBS	(818)706-9805	Chris Ambler, Fubar Systems	Arlington, VA
GLIB	(703)578-4542	J.J. van der Maas	Norcross, GA
Greenspace Environment	(415)12-9108	Tom Getty's	Peoria, IL
Hayes Advanced Systems Support	(800)874-2937	Marc Teitel	Philadelphia, PA
Heartnets/Satronics TBBS	(309)674-1100	Chuck Gilmore	New Hartford, CT
HH Info-Net BBS	(215)698-1905	Community Educational Svcs. Foundation	Cambridge, MA
HOLLIS	(203)246-3747	Tom Jennings	Atlanta, GA
Inbound/Outbound/Teleconnected	(617)495-9500	The First Fido BBS and home of Fido BBS 12s	Thousand Oaks, CA
Index Systems	(404)835-5300	Fidonet Community Information for Holland	Marietta, GA
Infinity World	(212)989-4675	Fidonet Technical Information for Holland	Lexington, KY
InfoHost Demo BBS	(404)924-8414	Gay Community - AIDS Info - Desktop Publishing - MACs	Hasbrouck Heights, NJ
InfoLink for Upper East Tenn.	(615)434-2551	Newspaper BBS. Wierdnet Newswire. List of MA Libraries	Johnson City, TN
Intel PCEO Support BBS	(503)645-6275	Middlesex News-Adam Gaffin	Hillsborough, OR
Invention Factory	(212)431-1194	Community Educational Svcs. Foundation	New York, NY
Investors Online Data	(703)325-0748	Tom Jennings	Bellevue, WA
JAG-NET	(408)559-0253	The First Fido BBS and home of Fido BBS 12s	Arlington, VA
JDR Microdevices BBS	(800)767-7000	Fidonet Technical Information for Holland	San Jose, CA
JEPP/LINK	(404)992-8837	Fidonet Technical Information for Holland	Los Gatos, CA
JOBS	(914)623-0039	Hayes Microcomputer Products	Roswell, GA
Keith Graham Shareware Support	(612)340-2489	IBM National Support Center	Nyack, NY
KIMBERELY BBS	(303)665-6091	IBM National Support Center	Boulder, CO
King's Market BBS 104/115	(602)293-8065	IBM National Support Center	Tucson, AZ
LANastic BBS	(315)592-7300	IBM National Support Center	Hannibal, NY
Late Night BBS	(415)695-0759	IBM National Support Center	Westborough, MA
Late Night Software 125/555	(508)836-3967	IBM National Support Center	Spokane, WA
LegalEase	(509)326-3238	IBM National Support Center	Montreal, Quebec
MAC-LINK	(514)935-4257	IBM National Support Center	

BOARDWATCH MAGAZINE

NATIONAL LIST OF ELECTRONIC BULLETIN BOARD SYSTEMS AND ON-LINE INFORMATION SERVICES - MARCH 1992

SERVICE	PHONE	DESCRIPTION	SPONSOR/SYSOP	LOCATION
Macalot Bulletin Board	(412)846-5312	Support for Second Sight BBS Software for Macintosh	Jeff Dripps/FreeSoft Company	Beaver Falls, PA
MacInternational	(803)798-3755	Largest MAC BBS on East Coast	Ralph Yount	Columbia, SC
Magpie BBS	(212)420-0527	Support/Demo System for Magpie BBS/Conferencing Software	Steve Manes	New York, NY
Maxi-Host Support BBS	(209)836-2402	Maxi-Host BBS - small, very easy to run BBS	Don Mankin	San Ramon, CA
McAfee Associates BBS	(408)988-4004	Computer Virus Information - VIRUSCAN and CLEANUP Programs	John McAfee/CVIA	Santa Clara, CA
METRO Online Entertainment	(212)831-9280	32 line DLX with City Guide/Ski Database - Matchmaker - Chat	Bruce Kamm/Metro Online Services	New York City, NY
Micro Foundry, The	(415)598-0398	2.2 GB Downloads - Your Online Software Source - Boardwatch	Thomas Nelson/Clockwork Software	San Jose, CA
Micro Message Service	(919)779-6674	USA Today/Boxoffice Magazine - Large Download Area	Mike Stroud	Raleigh, NC
Micro Tech BBS	(314)334-6359	Support for OS/2 RS Multiline BBS Software - IRIS Mail	Micro Tech	Cape Girardeau, MO
Microlink B	(303)972-9600	Over 2.5 GB of BM Software - Multiline - USA Today, News	Girard Westerberg	Littletown, CO
Micromic Technical Support BBS	(206)649-9836	Support for Popular R1Base Relational Data Base System	Micromic Corporation	Redmond, WA
Microsystems Software Inc.	(508)875-8009	HandiWare Software for Handicapped - CodeRunner C Utilities	MSI - Reed Lewis	Framingham, MA
Minnesota Spacenet	(612)920-5566	Minnesota Spacelink Society - NASA News	Ben Huset	Minneapolis, MN
MINUR's EMS	(818)366-1238	4 Lines - 4 Networks CD-ROMS - 1.5 GB Hub Services HST/V.32	Tom Tsimpidis	
Movie BBS	(718)939-5462	Movie Reviews and Information - Television	Clarke Ulmer	New York, NY
N.A.C.D. BBS	(912)246-3280	Cave Scuba Diving - Superb Special Topic System	National Assoc. of Cave Divers	Gainesville, FL
N8EMR Ham BBS	(614)895-2553	login:hbbs HAM Radio/AMSAT Unix System - Satellite/Packet	Gary Sanders	Westerville, OH
NAPLPS Graphics BBS	(613)727-5272	NAPLPS Graphics Terminal and Editor Software	MicroStar Corp.	Nepean, Ontario
NARDAC BBS	(804)445-1627	Zenith Computer Support - List of Federal Micro User Groups	Navy Regional Data Automation Center	NAS Norfolk, VA
NASA Headquarters Info Tech	(202)453-9008	Shareware and Technical Info for NASA PC Users.	National Aeronautical and Space Admin.	NAS Washington, DC
NASA Spacelink	(205)895-0028	NASA Educational Affairs Div. - Flight Data/Space History	Marshall Space Flight Center	Huntsville, AL
Nashville Exchange	(615)383-0727	8 line TBBS - Games/TDBS Software Development	Ben Cunningham	Nashville, TN
National Agricultural Library	(301)344-8510	Agricultural Info/Research Resources	US Department of Agriculture	Bethesda, MD
National Genealogical BBS	(703)528-2612	Family History - Genealogical Research - Gravestone Haunting	National Genealogical Society	Arlington, VA
NAWESPA	(202)433-6639	Naval Weapons Engineering Support	Dept. of Navy / Bill Walsh	Washington, D.C. -
Netcom Internet Guest System	(408)241-9760	Internet Access System - type "quest" at login for info.	Netcom Online Communications Services	San Jose, CA
Networld World Bulletin Board	(508)620-1178	LAN and WAN Issues and Technology	Network World Magazine/CW Communications	Framingham, MA
Neuropsychology Bound 157/3	(216)356-1431	Support Groups for Disabled/Physically Impaired	Butch Walker	Rocky River, OH
NIST ACTS	(303)494-4775	Automated Computer Telephone Service - Sync PC to NBS Time	Nat. Institute for Standards/Technology	Boulder, CO
NIST Computer Security	(301)948-5763	Computer Security and Virus Protection Issues	Nick De Wolf	Gaithersburg, MD
Nixpix	(303)920-1263	Large Library of Adult GIF Graphics Images	National Oceanographic/Atmospheric Admin	Aspen, CO
NOAA Space Environment Lab	(303)497-5042	Solar Flare/Geomagnetic Data Online	Mike Neuhaus	Boulder, CO
NoGate Consulting	(616)630-3392	Home of PAK archive utility	Gus Smedstad	Grand Rapids, MI
Numisnet	(301)498-8205	Collecting of Coins, Medals, and Exonumia	The Mitchell Group	Laurel, MD
OAQPSTTN	(919)541-5742	Air Quality Planning and Standards Technology Transfer Net	Environmental Protection Agency	Research Triangle Park, NC
OASIS BBS	(404)627-2862	Home of Atlanta Bulletin Board List - ABBL	Robert Orr/Online Atlanta Society	Decatur, GA
Odyssey	(212)385-2034	Job Safety Issues for Artists, Musicians, Entertainers	Mike McCann/Center for Safety in Arts	New York, NY
OERI BBS	(818)358-6568	Adult Multiline Chat System - Games - Magazines - Downloads	Michael Allen	Monrovia, CA
Old Colorado City Communications	(800)222-4922	Educational Statistics and Data - Performance Stats -	US Department of Education	Washington, D.C.
Online Now	(719)532-4111	Political Discussions - Unix UUCP Public Access - Multiline	Dave Hughes	Colorado Springs, CO
Online With Hayes	(807)345-5522	700 Megs plus 5 CD-ROMS plus 6 MB New Software per Week	Gary Walsh/Tom Haavisto	Thunder Bay, Ontario
Oracle PC	(404)446-6336	Hayes Public Bulletin Board - Conferences/SIGS/Support	James Toro	Norcross, GA
Oracom Support BBS	(6108)260-6222	South Australian TBBS Multiline System	Don Crago	Pooraka, South Australia,
Osprey's Nest	(619)346-1608	Sales and Support for Oracom Multiline BBS Software	Fran and Norm Saunders	Rancho Mirage, CA
P.D.S.I.O. BBS	(212)385-2034	Birdwatching, Bird feeding, Naturalist/Ecology Issues	James Torro	Colesville, MD
PacComm BBS	(813)874-3078	Home of THE LIST National BBS List	Gwyn Reedy/PacCom Inc.	Hicksville, NY
PC Ohio	(216)381-3320	Packet Radio Equipment Supplier - TNC/PSK Modems	Norm Henke	Tampa, FL
PHYSICS Forum BBS	(413)545-1959	Shareware library with 100% USR HST access - 24 lines	Univ. of Mass. Dept. of Physics/Astronomy	Cleveland, OH
Pinecliffe BBS 104/28	(303)989-9036	Physics and Astronomical Sciences	Craig Baker	Amherst, MA
PKWare BBS	(303)938-6722	Large Shareware Library/Echomail Conferences since 1985	Phil Katz/PKWare Incorporated	Pinecliffe, CO
Pleasure Dome	(414)354-8670	Home of PKZIP 1.10 Compression Utility	Tom Terrific	Glendale, WI
Popular Mechanics Online BBS	(804)490-5878	Sexually Explicit Fantasy Chat System - Adults only	Popular Mechanics Magazine	Tidewater, VA
Practical Peripherals BBS	(212)582-8369	Automotive, Home/Shcp, Electronics/Photography, Science	New York, NY	West Lake Village, CA
	(818)706-2467	Support BBS for Practical Peripherals Modems		

ProComm Support BBS	(314)875-0503	Home of ProComm 2.4.3 and ProComm Plus Comm Prgrms
Promised Land, The	(715)387-1339	16-Line/2.5GB/11,000+ Files/ WINDOWS, Chat & More
Public Brand Software BBS	(317)856-2087	Commercial Shareware Vendor
Public Data Network	(503)474-6862	64-line System with \$2.50/hour Local Access
QMail Deluxe Support BBS	(901)382-5583	Support for QMail - offline conference mail reader
Qualitas, Inc. BBS	(301)907-8030	386MAX and BlueMAX Memory Management Software Support
QuickBBS Support BBS 363/34	(407)896-0494	Product Support for QuickBBS Software
Rose Media	(416)733-2780	19 GB - Home of Rosemail - Publications/Conferences
Rusty & Edies	(216)726-0737	Large ML PCBoard run by Husband and Wife - NFL/Tradewars
Salt Air BBS	(801)261-8976	Home of PCBoard BBS Software - National List of PCB Sys
San Diego NeXT User's Group BBS	(619)456-2522	Support for NeXT Computer's
Science Resource Studies BBS	(202)634-1764	Federal R&D Budget - Technical Labor Market Statistics
SEAboard!	(201)473-1991	Support system for ARC, SEALOG, and AXE software.
Seagate Technical Support BBS	(408)438-8771	Installation and Specifications for Hard Drive Models
Searchlight BBS	(51)689-2566	Support system for Searchlight BBS Software
SemWare Support BBS	(404)641-8968	Home of QEdit - A Superb Shareware Text Editor
Short Line 104/36	(303)733-0773	Varied Subjects, Fidonet, BinkleyTerm, Entertainment
SIGCAT BBS	(703)648-4168	CD-ROM/Optical Publishing Info - Lists of Gov CD Data
Sistema Profesional Informacion	525 590-5988	Largest BBS in Mexico - Spanish Language TBBs
Sonshine Express BBS	(703)522-3299	STC Job Service, Freelance Registry - Technical Writers
Sound Advice BBS	(415)651-2440	Family Oriented Christian BBS
Star-Link Network BBS	(81)6436-4516	Twenty Line PCBoard with 2 Gigabytes Storage - HST Modems
State and Local Emergency Mgmt.	(718)972-6099	Hazardous Materials/National Dam Watch/Emergency Info
Stillwaters BBS	(202)646-2887	Home of Stillwaters Chicagoland BBS List - over 500 systems
Superdemocracy Foundation BBS	(708)403-2826	Home of Democracy/Political Culture for the Future
TAXACOM	(305)370-9376	Botany, Herbarium, FLORA ONLINE Newsletter, Latin Translation
TEAMate Unix Bulletin Board	(716)896-7581	Demo/Support for TEAMate BBS Software for Unix
Telegodzilla	(213)318-5302	Home of ZModem File Transfer Protocol/YModem/YAM
Telepath	(503)621-3746	DBMS/Dr. Dobbs Journal Magazine Online Service
Telex Support BBS	(415)364-8315	Support Service for Telix Communications Software
That Old Frog's Swamp	(416)439-8293	Zen Bhuddist Monk/PC Consultant
The Back Room	(71)81849-1614	America's Largest Exclusively Gay DB - Home of Gaycomm
The Business BBS	(818)896-4015	Microsoft Windows Support
The Ledge PCBoard	(708)885-8865	Home of Textview Door for PCBoard Systems
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The Well	(415)332-7190	Unix Conferencing System - \$10 monthly plus \$2.50 Hourly
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Transnet	(217)384-5101	Language Translation Services, Dictionaries - Freelance
Trinity 1 BBS	44 392 4 102 10	United Kingdom Distributor of Boardwatch Magazine
TurboTax Support BBS	(619)453-5232	Income tax information - TurboTax 1040 program support
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US Naval Observatory BBS	(202)653-1079	Time - Date - Sunrise - Sunset - Enter @ TCO for Commands
USGS Quick Epicenter Determin.	(800)358-2663	Earthquake Epicenter Data - Geomagnetism/TE2
USNO Time of Day for Clocks	(202)653-0351	Xmits ASCII Time String - Sync Your PC to USNO Atomic Clock
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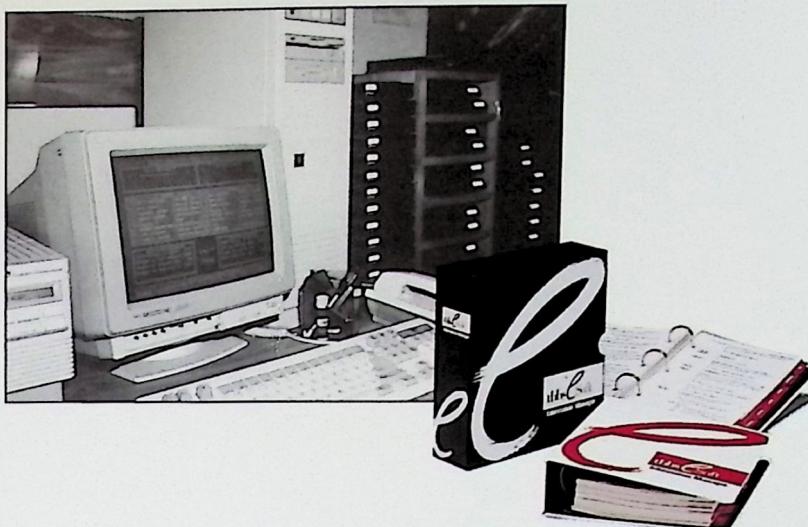
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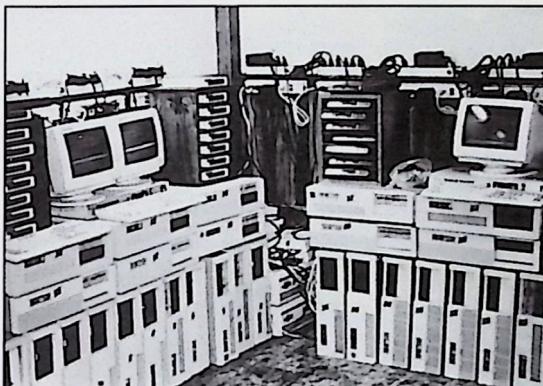
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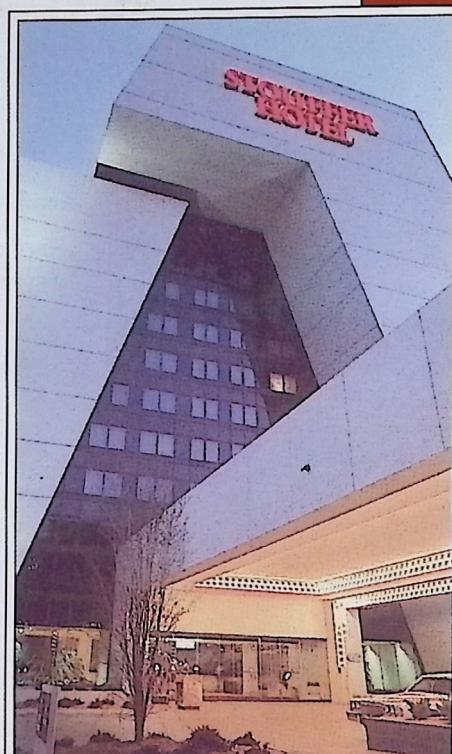
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